

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: February 14, 2005, 15:07:26 ; Search time 139 Seconds
(without alignments)
1532.665 Million cell updates/sec

Title: US-10-614-076-98

Perfect score: 3406

Sequence: 1 MNPNRSEHDTIKVTNPSEL.....SFVSNKIIDKIEFIPVQL 652

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1376875 seqs, 326749119 residues

Total number of hits satisfying chosen parameters: 1376875

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 150 summaries

Database :

Published Applications AA:*

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19: /cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep.*
20: /cgn2_6/ptodata/2/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
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3	3406	100.0	652	15	US-10-614-076-111
4	3406	100.0	652	16	US-10-782-141-11
5	3402	99.9	652	15	US-10-614-076-68
6	3401	99.9	652	14	US-10-232-665-6
7	3401	99.9	652	15	US-10-614-076-14
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146 1165 34.2 673 15 US-10-606-320-86 Sequence 86, Appl
147 1164 34.2 673 15 US-10-606-320-54 Sequence 54, Appl
148 1134 33.3 1156 14 US-10-099-285-72 Sequence 72, Appl
149 1134 33.3 1156 15 US-10-428-961-28 Sequence 28, Appl
150 1128.5 33.1 673 15 US-10-665-460A-4 Sequence 4, Appl

ALIGNMENTS

RESULT 1

US-10-232-665-2

; Sequence 2, Application US/10232665

; Publication No. US20030115630A1

; GENERAL INFORMATION:

; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patent In Ver. 2.0
; SEQ ID NO 2
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Bacillus thuringiensis
US-10-232-665-2

Query Match 100.0%; Score 3406; DB 14; Length 652;
Best Local Similarity 100.0%; Pred. No. 5.1e-262;
Matches 652; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 1 MNPNNRSHDIKVTNPSELQTNHNYPLADNPSTLEELNYKEFLRMTESSSTVLDSNS 60
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Db 61 TVKDAVGTVGVGQILGVGVPPFAGALTSFYQSFNTIWPSSDADPWKAFMAQVEVLIDK 120
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Db 121 KIEEYAKSKALAEQLQNNFEDYVVALNSWKKTPLSLRSKRSQDRIRLEFSAESHPFN 180
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RESULT 2

US-10-614-076-98

; Sequence 98, Application US/10614076

; Publication No. US20040033523A1

; GENERAL INFORMATION:

; APPLICANT: English, Leigh H.

; APPLICANT: Brussock, Susan M.

; APPLICANT: Malvar, Thomas M.

Db 601 DDDLTQTDFDLATTSNMGFGSGDKNELIIGAESFVSNKEIYIDKIEFIPVOL 652
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RESULT 4
US-10-782-141-11
; Sequence 11, Application US/10782141
; Publication No. US20040197917A1
; GENERAL INFORMATION:
; APPLICANT: Carozzi, Nadine
; APPLICANT: Hargies, Tracy
; APPLICANT: Kozziel, Michael G.
; APPLICANT: Duck, Nicholas B.
; APPLICANT: Carr, Brian
; TITLE OF INVENTION: AXMT-014, A Delta-Endotoxin Gene and
; TITLE OF INVENTION: Methods for its Use
; FILE REFERENCE: 045600/274143
; CURRENT APPLICATION NUMBER: US/10/782,141
; CURRENT FILING DATE: 2004-02-20
; PRIOR APPLICATION NUMBER: 60/448,632
; PRIOR FILING DATE: 2003-02-20
; NUMBER OF SEQ ID NOS: 23
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 11
; TYPE: PRT
; ORGANISM: Bacillus thuringiensis
US-10-782-141-11

Query Match 100.0%; Score 3406; DB 16; Length 652;
Best Local Similarity 100.0%; Pred. No. 5,1e-262;
Matches 652; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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DB 1 MNPNNRSEHDTTKVTPNSELOTHNQYPLADPNSTLEELNYKEFLRMTESSSTEVLNS 60
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DB 61 TVKDAVGTGIVGVGQILGVVGPFPAGALTSTFQSPFLNTIWPSDADPWKAFMAQVEVLIDK 120
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DB 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELPSQAESHPFN 180
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DB 241 TDHCNVNWNVLNGLRGSTYDAWKFNRRREMTLTVLDLIVLPFYDIRLYSKGVKTEL 300
QY 301 TRDIFTDPIFSLNTLQEGYPTFLSIENSIRKPHLFDYLGIEFHTRLQPGYFGKDSFNW 360
DB 301 TRDIFTDPIFSLNTLQEGYPTFLSIENSIRKPHLFDYLGIEFHTRLQPGYFGKDSFNW 360
QY 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVOKLSFDGQKVYRTIANTDVAAMPNGKVYLG 420
DB 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVOKLSFDGQKVYRTIANTDVAAMPNGKVYLG 420
QY 421 VTKVDFPSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPETTDEPLEKAYSHQNLVYAE 480
DB 421 VTKVDFPSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPETTDEPLEKAYSHQNLVYAE 480
QY 481 CFLMDRRGTIIPFFTWTHRSVDFNFNTIDAETITQLPVVKAYALSSGASIIIEGFGTGGNL 540
DB 481 CFLMDRRGTIIPFFTWTHRSVDFNFNTIDAETITQLPVVKAYALSSGASIIIEGFGTGGNL 540
QY 541 LFLKSSNSIAKFKVTLNSAALLQRYVRIRVASTTNLFLVQNSNNDPLVIYINKTMNK 600
DB 541 LFLKSSNSIAKFKVTLNSAALLQRYVRIRVASTTNLFLVQNSNNDPLVIYINKTMNK 600

QY 601 DDDLTQTDFDLATTSNMGFGSGDKNELIIGAESFVSNKEIYIDKIEFIPVOL 652
DB 601 DDDLTQTDFDLATTSNMGFGSGDKNELIIGAESFVSNKEIYIDKIEFIPVOL 652
|||||

RESULT 5
US-10-614-076-68
; Sequence 68, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 68
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-68

Query Match 99.9%; Score 3402; DB 15; Length 652;
Best Local Similarity 99.8%; Pred. No. 1,1e-261;
Matches 651; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY 1 MNPNNRSEHDTTKVTPNSELOTHNQYPLADPNSTLEELNYKEFLRMTESSSTEVLNS 60
DB 1 MNPNNRSEHDTTKVTPNSELOTHNQYPLADPNSTLEELNYKEFLRMTESSSTEVLNS 60
QY 61 TVKDAVGTGIVGVGQILGVVGPFPAGALTSTFQSPFLNTIWPSDADPWKAFMAQVEVLIDK 120
DB 61 TVKDAVGTGIVGVGQILGVVGPFPAGALTSTFQSPFLNTIWPSDADPWKAFMAQVEVLIDK 120
QY 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELPSQAESHPFN 180
DB 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELPSQAESHPFN 180
QY 181 SMPFAVSKFEVLFLPTYAAQANTHLLILLKDAQVGEWGYSSSEDVAEFYHRQLKLTQOY 240
DB 181 SMPFAVSKFEVLFLPTYAAQANTHLLILLKDAQVGEWGYSSSEDVAEFYHRQLKLTQOY 240
QY 241 TDHCNVNWNVLNGLRGSTYDAWKFNRRREMTLTVLDLIVLPFYDIRLYSKGVKTEL 300
DB 241 TDHCNVNWNVLNGLRGSTYDAWKFNRRREMTLTVLDLIVLPFYDIRLYSKGVKTEL 300
QY 301 TRDIFTDPIFSLNTLQEGYPTFLSIENSIRKPHLFDYLGIEFHTRLQPGYFGKDSFNW 360
DB 301 TRDIFTDPIFSLNTLQEGYPTFLSIENSIRKPHLFDYLGIEFHTRLQPGYFGKDSFNW 360
QY 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVOKLSFDGQKVYRTIANTDVAAMPNGKVYLG 420
DB 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVOKLSFDGQKVYRTIANTDVAAMPNGKVYLG 420
QY 421 VTKVDFPSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPETTDEPLEKAYSHQNLVYAE 480
DB 421 VTKVDFPSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPETTDEPLEKAYSHQNLVYAE 480
QY 481 CFLMDRRGTIIPFFTWTHRSVDFNFNTIDAETITQLPVVKAYALSSGASIIIEGFGTGGNL 540

Db 481 CFLMDRRGTPFTTTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGNNL 540
Qy 541 LFLKESNSIAKPKVTLSAALLQRYVRIRYASTTNLRLVQNSNNDFLVIYINKTMNK 600
Db 541 LFLKESNSIAKPKVTLSAALLQRYVRIRYASTTNLRLVQNSNNDFLVIYINKTMNK 600
Qy 601 DDDLTYTQTFDLATNSNMGFGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 601 DDDLTYTQTFDLATNSNMGFGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
RESULT 6
US-10-232-665-6
; Sequence 6, Application US/10233665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 6
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: synthetic or
; OTHER INFORMATION: non-naturally occurring amino acid sequence encoded by SEQ ID NO:
; NAME/KEY: PRT
; LOCATION: (1)..(652)
US-10-232-665-6
Query Match 99.9%; Score 3401; DB 14; Length 652;
Best Local Similarity 99.8%; Pred. No. 1.3e-261;
Matches 651; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
Qy 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNTLLEELNYKEFLRMTESSSTEVLDS 60
Db 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNTLLEELNYKEFLRMTESSSTEVLDS 60
Qy 61 TVKDAVGTGIVSVGQILGVVGVFPAGALTSFYQSFLNTIWPSPADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGIVSVGQILGVVGVFPAGALTSFYQSFLNTIWPSPADPWKAFMAQVEVLIDK 120
Qy 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQASHFRN 180
Db 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQASHFRN 180
Qy 181 SMPSPAVSKPEVLFLPTYAQAANTHLLKDAQVFGSEWGYSSDVAEFYHRQLKLTQY 240
Db 181 SMPSPAVSKPEVLFLPTYAQAANTHLLKDAQVFGSEWGYSSDVAEFYHRQLKLTQY 240
Qy 241 TDHCVNMYNGLNLRGSTRYDAWKFNRRREMTLTVLDLIVLPFYDRLYSGVKTEL 300
Db 241 TDHCVNMYNGLNLRGSTRYDAWKFNRRREMTLTVLDLIVLPFYDRLYSGVKTEL 300
Qy 301 SGNVETRPSIGSKTITSFPYGDKSTEPVKLSFDGQKYVRTIANTDVAAPNGKYYLG 420
Db 301 SGNVETRPSIGSKTITSFPYGDKSTEPVKLSFDGQKYVRTIANTDVAAPNGKYYLG 420
Qy 421 VTKVDSQYDDQKNETSTQYDSKRNGHVSQAQDSIDQLPETTDEPLEKAYSHQNYAE 480
Db 421 VTKVDSQYDDQKNETSTQYDSKRNGHVSQAQDSIDQLPETTDEPLEKAYSHQNYAE 480

Qy 481 CFLMDRRGTPFTTTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGNNL 540
Db 481 CFLMDRRGTPFTTTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGNNL 540
Qy 541 LFLKESNSIAKPKVTLSAALLQRYVRIRYASTTNLRLVQNSNNDFLVIYINKTMNK 600
Db 541 LFLKESNSIAKPKVTLSAALLQRYVRIRYASTTNLRLVQNSNNDFLVIYINKTMNK 600
Qy 601 DDDLTYTQTFDLATNSNMGFGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 601 DDDLTYTQTFDLATNSNMGFGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
RESULT 7
US-10-614-076-14
; Sequence 14, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Bruesock, Susan M.
; APPLICANT: Malvar, Thomas W.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DV0501
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 14
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-14
Query Match 99.9%; Score 3401; DB 15; Length 652;
Best Local Similarity 99.8%; Pred. No. 1.3e-261;
Matches 651; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
Qy 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNTLLEELNYKEFLRMTESSSTEVLDS 60
Db 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNTLLEELNYKEFLRMTESSSTEVLDS 60
Qy 61 TVKDAVGTGIVSVGQILGVVGVFPAGALTSFYQSFLNTIWPSPADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGIVSVGQILGVVGVFPAGALTSFYQSFLNTIWPSPADPWKAFMAQVEVLIDK 120
Qy 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQASHFRN 180
Db 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQASHFRN 180
Qy 181 SMPSPAVSKPEVLFLPTYAQAANTHLLKDAQVFGSEWGYSSDVAEFYHRQLKLTQY 240
Db 181 SMPSPAVSKPEVLFLPTYAQAANTHLLKDAQVFGSEWGYSSDVAEFYHRQLKLTQY 240
Qy 241 TDHCVNMYNGLNLRGSTRYDAWKFNRRREMTLTVLDLIVLPFYDRLYSGVKTEL 300
Db 241 TDHCVNMYNGLNLRGSTRYDAWKFNRRREMTLTVLDLIVLPFYDRLYSGVKTEL 300
Qy 301 TRDIFTDPIFSLNTLOEYGTFLSIENSIRKPHLPDYLOGIEFHTRLQPGYFGKDSFNW 360
Db 301 TRDIFTDPIFSLNTLOEYGTFLSIENSIRKPHLPDYLOGIEFHTRLQPGYFGKDSFNW 360

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QY 361 SGNVETRPSIGSSKTTTSPFYGDKSTPEVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
Db 361 SGNVETRPSIGSSKTTTSPFYGDKSTPEVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
QY 421 VTKVDFSOYDDOKNETSTQTYDSKRNGHVSQAQDSIDQLPPTTDEPLEKAYSHQNLVYAE 480
Db 421 VTKVDFSOYDDOKNETSTQTYDSKRNGHVSQAQDSIDQLPPTTDEPLEKAYSHQNLVYAE 480
QY 481 CFLMDRRGTIPFPTTWRHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNL 540
Db 481 CFLMDRRGTIPFPTTWRHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNL 540
QY 541 LFLKSSNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNDFLVIYINKTNK 600
Db 541 LFLKSSNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNDFLVIYINKTNK 600
QY 601 DDDLTYQTDFDLATTSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVQL 652
Db 601 DDDLTYQTDFDLATTSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVQL 652

RESULT 8
US-10-614-076-32
; Sequence 32, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terssch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 32
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-32
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```
Query Match 99.8%; Score 3400; DB 15; Length 652;
Best Local Similarity 99.8%; Pred. No. 1.5e-261;
Matches 651; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSSTEVLDNS 60
Db 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSSTEVLDNS 60
QY 61 TVKDAVGTGISVVGQILGVGVFPFAGALTSTFYQSFLNTWPSPADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGISVVGQILGVGVFPFAGALTSTFYQSFLNTWPSPADPWKAFMAQVEVLIDK 120
QY 121 KIEEYAKSALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFN 180
Db 121 KIEEYAKSALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFN 180
QY 181 SMPSPAVSKFEVLFLPTYAQAANTHLLLLKDAQVGEENGYSSSEDVAEFVHROLKLTQY 240
Db 181 SMPSPAVSKFEVLFLPTYAQAANTHLLLLKDAQVGEENGYSSSEDVAEFVHROLKLTQY 240
QY 241 TDHCVNMYNVLNGLRGSTYDAWKFNFRREMTLTVLDLVLFPFYDIRLSYSGVKTEL 300
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Db 241 TDHCVNMYNVLNGLRGSTYDAWKFNFRREMTLTVLDLVLFPFYDIRLSYSGVKTEL 300
QY 301 TRDIFTDPISFLNTLOEYGPFTFLSIENSIRKPHLFDYLQIEFHTRLQPGYFGKDSFNW 360
Db 301 TRDIFTDPISFLNTLOEYGPFTFLSIENSIRKPHLFDYLQIEFHTRLQPGYFGKDSFNW 360
QY 361 SGNVETRPSIGSSKTTTSPFYGDKSTPEVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
Db 361 SGNVETRPSIGSSKTTTSPFYGDKSTPEVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
QY 421 VTKVDFSOYDDOKNETSTQTYDSKRNGHVSQAQDSIDQLPPTTDEPLEKAYSHQNLVYAE 480
Db 421 VTKVDFSOYDDOKNETSTQTYDSKRNGHVSQAQDSIDQLPPTTDEPLEKAYSHQNLVYAE 480
QY 481 CFLMDRRGTIPFPTTWRHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNL 540
Db 481 CFLMDRRGTIPFPTTWRHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNL 540
QY 541 LFLKSSNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNDFLVIYINKTNK 600
Db 541 LFLKSSNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNDFLVIYINKTNK 600
QY 601 DDDLTYQTDFDLATTSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVQL 652
Db 601 DDDLTYQTDFDLATTSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVQL 652

RESULT 9
US-10-614-076-48
; Sequence 48, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terssch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 48
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-48

Query Match 99.8%; Score 3400; DB 15; Length 652;
Best Local Similarity 99.7%; Pred. No. 1.5e-261;
Matches 650; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSSTEVLDNS 60
Db 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSSTEVLDNS 60
QY 61 TVKDAVGTGISVVGQILGVGVFPFAGALTSTFYQSFLNTWPSPADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGISVVGQILGVGVFPFAGALTSTFYQSFLNTWPSPADPWKAFMAQVEVLIDK 120
QY 121 KIEEYAKSALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFN 180
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Db      121 KIEYAKSKALAEQLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRN 180
Qy      181 SMPSPFAVSKFEVLFLPTIAQAANTHLLLLKDAQVFGSEWGYSSDVAEFYHRQLKLTQOY 240
Db      181 SMPSPFAVSKFEVLFLPTIAQAANTHLLLLKDAQVFGSEWGYSSDVAEFYHRQLKLTQOY 240
Qy      241 TDHCVMNMYNGLNGRSTYDAWKFNRFREMTLTVDLILVLPFFDYIRLYSGVKTEL 300
Db      241 TDHCVMNMYNGLNGRSTYDAWKFNRFREMTLTVDLILVLPFFDYIRLYSGVKTEL 300
Qy      301 TRDIFTDPIFSLNTLOEQYPTFLSIENSIKPHLFDYLGIEFHTRLPQGYFGKDSFNW 360
Db      301 TRDIFTDPIFSLNTLOEQYPTFLSIENSIKPHLFDYLGIEFHTRLPQGYFGKDSFNW 360
Qy      361 SGNVETRPSIGSSKTIITSPYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
Db      361 SGNVETRPSIGSSKTIITSPYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
Qy      421 VTKVDFSQYDDQKNETSTQYDYSKRNGHVSQAQDSIDQLPETTTDEPLEKAYSHQLNYAE 480
Db      421 VTKVDFSQYDDQKNETSTQYDYSKRNGHVSQAQDSIDQLPETTTDEPLEKAYSHQLNYAE 480
Qy      481 CFLMQDRRGITPPFTWTHRSVDFNTDAEKITQLPVKAYALSSGASIIIEGPGFTGNNL 540
Db      481 CFLMQDRRGITPPFTWTHRSVDFNTDAEKITQLPVKAYALSSGASIIIEGPGFTGNNL 540
Qy      541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
Db      541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
Qy      601 DDDLTYQTFDLATNSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db      601 DDDLTYQTFDLATNSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652

RESULT 10
US-10-614-076-44
; Sequence 44, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terssch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218-1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: Patentin version 3.2
; SEQ ID NO 44
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-44

Query Match          99.8%; Score 3399; DB 15; Length 652;
Best Local Similarity 99.8%; Pred. No. 1.8e-261;
Matches 651; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy      1 MNPNRSEHDTIKVTNPSELQTHNQYPLADNPNSTLEELNYKEFLRMTEDSSTEVLDNS 60
Db      1 MNPNRSEHDTIKVTNPSELQTHNQYPLADNPNSTLEELNYKEFLRMTEDSSTEVLDNS 60

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Qy      61 TVKDAVGTGISVVGQILGVVGPAGALTSTFYOSFLNTIWPSSDADPKAFMAQVEVLIDK 120
Db      61 TVKDAVGTGISVVGQILGVVGPAGALTSTFYOSFLNTIWPSSDADPKAFMAQVEVLIDK 120
Qy      121 KIEYAKSKALAEQLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRN 180
Db      121 KIEYAKSKALAEQLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLFSQAESHFRN 180
Qy      181 SMPSPFAVSKFEVLFLPTIAQAANTHLLLLKDAQVFGSEWGYSSDVAEFYHRQLKLTQOY 240
Db      181 SMPSPFAVSKFEVLFLPTIAQAANTHLLLLKDAQVFGSEWGYSSDVAEFYHRQLKLTQOY 240
Qy      241 TDHCVMNMYNGLNGRSTYDAWKFNRFREMTLTVDLILVLPFFDYIRLYSGVKTEL 300
Db      241 TDHCVMNMYNGLNGRSTYDAWKFNRFREMTLTVDLILVLPFFDYIRLYSGVKTEL 300
Qy      301 TRDIFTDPIFSLNTLOEQYPTFLSIENSIKPHLFDYLGIEFHTRLPQGYFGKDSFNW 360
Db      301 TRDIFTDPIFSLNTLOEQYPTFLSIENSIKPHLFDYLGIEFHTRLPQGYFGKDSFNW 360
Qy      361 SGNVETRPSIGSSKTIITSPYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
Db      361 SGNVETRPSIGSSKTIITSPYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
Qy      421 VTKVDFSQYDDQKNETSTQYDYSKRNGHVSQAQDSIDQLPETTTDEPLEKAYSHQLNYAE 480
Db      421 VTKVDFSQYDDQKNETSTQYDYSKRNGHVSQAQDSIDQLPETTTDEPLEKAYSHQLNYAE 480
Qy      481 CFLMQDRRGITPPFTWTHRSVDFNTDAEKITQLPVKAYALSSGASIIIEGPGFTGNNL 540
Db      481 CFLMQDRRGITPPFTWTHRSVDFNTDAEKITQLPVKAYALSSGASIIIEGPGFTGNNL 540
Qy      541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
Db      541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
Qy      601 DDDLTYQTFDLATNSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db      601 DDDLTYQTFDLATNSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652

RESULT 11
US-10-614-076-54
; Sequence 54, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terssch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218-1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: Patentin version 3.2
; SEQ ID NO 54
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-54

```

```
Query Match          99.8%; Score 3399; DB 15; Length 652;
Best Local Similarity 99.8%; Pred. No. 1.8e-261;
Matches 651; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTESSSTEVLDNS 60
DB 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTESSSTEVLDNS 60

QY 61 TVKDAVGTGISVVGQILGVGVPFAGALTSTFQSFPLNTIWPSDADPWKAFMAQVEVLIDK 120
DB 61 TVKDAVGTGISVVGQILGVGVPFAGALTSTFQSFPLNTIWPSDADPWKAFMAQVEVLIDK 120

QY 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLELFSQAESHFRN 180
DB 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLELFSQAESHFRN 180

QY 181 SMPSPAVSKFEVLFLPTVAQAANTHLLLLKDAQVFGEEGYSSEDAVFYHRQLKLTQOY 240
DB 181 SMPSPAVSGFEVLFLPTVAQAANTHLLLLKDAQVFGEEGYSSEDAVFYHRQLKLTQOY 240

QY 241 TDHCYNWYVGLNGLRSTYDAWKFNFRREMTLTVLDLIVLFPFYDIRLYSGVKTEL 300
DB 241 TDHCYNWYVGLNGLRSTYDAWKFNFRREMTLTVLDLIVLFPFYDIRLYSGVKTEL 300

QY 301 TRDIFTDPIFSLNTLOEQYPTFLSIENSIRKPHLFDYLQGLIEFHTRLOPGYFGKDSFNYW 360
DB 301 TRDIFTDPIFSLNTLOEQYPTFLSIENSIRKPHLFDYLQGLIEFHTRLOPGYFGKDSFNYW 360

QY 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
DB 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420

QY 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPETTDEPLEKAYSHOLNVAE 480
DB 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPETTDEPLEKAYSHOLNVAE 480

QY 481 CFLMDRRGTIPFFTWTHRSVDFNTIDAEXTQLPVVKAYALSSGASIIIEGPGFTGNL 540
DB 481 CFLMDRRGTIPFFTWTHRSVDFNTIDAEXTQLPVVKAYALSSGASIIIEGPGFTGNL 540

QY 541 LFLKESNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNDFLVIYINKTNWK 600
DB 541 LFLKESNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNDFLVIYINKTNWK 600

QY 601 DDDLTYQTFDLATTSNMGFSQDKNELIIGAESFVSNKEIYIDKIEFIPVQL 652
DB 601 DDDLTYQTFDLATTSNMGFSQDKNELIIGAESFVSNKEIYIDKIEFIPVQL 652
```

```
RESULT 12
US-10-614-076-8
; Sequence 8, Application US/10614076
; Publication No. US2004003523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brusseck, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; PRIOR FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 8
```

```
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-8

Query Match          99.8%; Score 3398; DB 15; Length 652;
Best Local Similarity 99.8%; Pred. No. 2.2e-261;
Matches 651; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTESSSTEVLDNS 60
DB 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTESSSTEVLDNS 60

QY 61 TVKDAVGTGISVVGQILGVGVPFAGALTSTFQSFPLNTIWPSDADPWKAFMAQVEVLIDK 120
DB 61 TVKDAVGTGISVVGQILGVGVPFAGALTSTFQSFPLNTIWPSDADPWKAFMAQVEVLIDK 120

QY 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLELFSQAESHFRN 180
DB 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLELFSQAESHFRN 180

QY 181 SMPSPAVSKFEVLFLPTVAQAANTHLLLLKDAQVFGEEGYSSEDAVFYHRQLKLTQOY 240
DB 181 SMPSPAVSKFEVLFLPTVAQAANTHLLLLKDAQVFGEEGYSSEDAVFYHRQLKLTQOY 240

QY 241 TDHCYNWYVGLNGLRSTYDAWKFNFRREMTLTVLDLIVLFPFYDIRLYSGVKTEL 300
DB 241 TDHCYNWYVGLNGLRSTYDAWKFNFRREMTLTVLDLIVLFPFYDIRLYSGVKTEL 300

QY 301 TRDIFTDPIFSLNTLOEQYPTFLSIENSIRKPHLFDYLQGLIEFHTRLOPGYFGKDSFNYW 360
DB 301 TRDIFTDPIFSLNTLOEQYPTFLSIENSIRKPHLFDYLQGLIEFHTRLOPGYFGKDSFNYW 360

QY 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
DB 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420

QY 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPETTDEPLEKAYSHOLNVAE 480
DB 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPETTDEPLEKAYSHOLNVAE 480

QY 481 CFLMDRRGTIPFFTWTHRSVDFNTIDAEXTQLPVVKAYALSSGASIIIEGPGFTGNL 540
DB 481 CFLMDRRGTIPFFTWTHRSVDFNTIDAEXTQLPVVKAYALSSGASIIIEGPGFTGNL 540

QY 541 LFLKESNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNDFLVIYINKTNWK 600
DB 541 LFLKESNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNDFLVIYINKTNWK 600

QY 601 DDDLTYQTFDLATTSNMGFSQDKNELIIGAESFVSNKEIYIDKIEFIPVQL 652
DB 601 DDDLTYQTFDLATTSNMGFSQDKNELIIGAESFVSNKEIYIDKIEFIPVQL 652
```

```
RESULT 13
US-10-614-076-26
; Sequence 26, Application US/10614076
; Publication No. US2004003523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brusseck, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
```

; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 06/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 26
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-26

Query Match 99.8%; Score 3398; DB 15; Length 652;
Best Local Similarity 99.7%; Pred. No. 2.2e-261;
Matches 650; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNTLLEELNYKEFLRMTESSSTEVLNDS 60
DB 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNTLLEELNYKEFLRMTESSSTEVLNDS 60

QY 61 TVKDAVGTGIVVGVQILGVGVFPFAGALTSFYQSFLNTIWPSDADPWKAPMAQVEVLIDK 120
DB 61 TVKDAVGTGIVVGVQILGVGVFPFAGALTSFYQSFLNTIWPSDADPWKAPMAQVEVLIDK 120

QY 121 KIEEYAKSALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLELPSQAESHFRN 180
DB 121 KIEEYAKSALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLELPSQAESHFRN 180

QY 181 SMPSPFAVSKEFVFLPPTYAQAANTHLLLLKDAQVFGEEWGYSSSEDVAEFYHRQLKLTQY 240
DB 181 SMPSPFAVSKEFVFLPPTYAQAANTHLLLLKDAQVFGEEWGYSSSEDVAEFYHRQLKLTQY 240

QY 241 TDHCVNMYNVLNGLRGSTYDAWVKFNFRREMTLTVDLIVLPFPFYDIRLYSGVKTEL 300
DB 241 TDHCVNMYNVLNGLRGSTYDAWVKFNFRREMTLTVDLIVLPFPFYDIRLYSGVKTEL 300

QY 301 TRDIFTDPIFSLNTLOEYGPTELSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
DB 301 TRDIFTDPIFSLNTLOEYGPTELSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360

QY 361 SGNYVETRPSIGSSKTIITSPFYGDKSTPEVKLSFDGQKYVRTIANTDVAAMPNGKVYLG 420
DB 361 SGNYVETRPSIGSSKTIITSPFYGDKSTPEVKLSFDGQKYVRTIANTDVAAMPNGKVYLG 420

QY 421 VTKVDFSYDDQKNETSTQYDSKRNGHVSAQDSIDLPPETTDPLEKAYSHQLNYAE 480
DB 421 VTKVDFSYDDQKNETSTQYDSKRNGHVSAQDSIDLPPETTDPLEKAYSHQLNYAE 480

QY 481 CFLMQDRRGTIIPFTWTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGGNL 540
DB 481 CFLMQDRRGTIIPFTWTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGGNL 540

QY 541 LFLKSSNSIAKPKVTLSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
DB 541 LFLKSSNSIAKPKVTLSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600

QY 601 DDDLTYQTDFLATNNSNMGFGSGDKNELIIIGAESFVSNKEIYIDKIFIPVQL 652
DB 601 DDDLTYQTDFLATNNSNMGFGSGDKNELIIIGAESFVSNKEIYIDKIFIPVQL 652

RESULT 14

US-10-614-076-42
; Sequence 42, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.

; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terach, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 42
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-42

Query Match 99.8%; Score 3398; DB 15; Length 652;
Best Local Similarity 99.8%; Pred. No. 2.2e-261;
Matches 651; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNTLLEELNYKEFLRMTESSSTEVLNDS 60
DB 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNTLLEELNYKEFLRMTESSSTEVLNDS 60

QY 61 TVKDAVGTGIVVGVQILGVGVFPFAGALTSFYQSFLNTIWPSDADPWKAPMAQVEVLIDK 120
DB 61 TVKDAVGTGIVVGVQILGVGVFPFAGALTSFYQSFLNTIWPSDADPWKAPMAQVEVLIDK 120

QY 121 KIEEYAKSALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLELPSQAESHFRN 180
DB 121 KIEEYAKSALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLELPSQAESHFRN 180

QY 181 SMPSPFAVSKEFVFLPPTYAQAANTHLLLLKDAQVFGEEWGYSSSEDVAEFYHRQLKLTQY 240
DB 181 SMPSPFAVSKEFVFLPPTYAQAANTHLLLLKDAQVFGEEWGYSSSEDVAEFYHRQLKLTQY 240

QY 241 TDHCVNMYNVLNGLRGSTYDAWVKFNFRREMTLTVDLIVLPFPFYDIRLYSGVKTEL 300
DB 241 TDHCVNMYNVLNGLRGSTYDAWVKFNFRREMTLTVDLIVLPFPFYDIRLYSGVKTEL 300

QY 301 TRDIFTDPIFSLNTLOEYGPTELSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
DB 301 TRDIFTDPIFSLNTLOEYGPTELSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360

QY 361 SGNYVETRPSIGSSKTIITSPFYGDKSTPEVKLSFDGQKYVRTIANTDVAAMPNGKVYLG 420
DB 361 SGNYVETRPSIGSSKTIITSPFYGDKSTPEVKLSFDGQKYVRTIANTDVAAMPNGKVYLG 420

QY 421 VTKVDFSYDDQKNETSTQYDSKRNGHVSAQDSIDLPPETTDPLEKAYSHQLNYAE 480
DB 421 VTKVDFSYDDQKNETSTQYDSKRNGHVSAQDSIDLPPETTDPLEKAYSHQLNYAE 480

QY 481 CFLMQDRRGTIIPFTWTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGGNL 540
DB 481 CFLMQDRRGTIIPFTWTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGGNL 540

QY 541 LFLKSSNSIAKPKVTLSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
DB 541 LFLKSSNSIAKPKVTLSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600

QY 601 DDDLTYQTDFLATNNSNMGFGSGDKNELIIIGAESFVSNKEIYIDKIFIPVQL 652
DB 601 DDDLTYQTDFLATNNSNMGFGSGDKNELIIIGAESFVSNKEIYIDKIFIPVQL 652

RESULT 15

US-10-614-076-12
; Sequence 12, Application US/10614076

Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas W.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terssch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 12
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-12

Query Match 99.7%; Score 3396; DB 15; Length 652;
Best Local Similarity 99.8%; Pred. No. 3.2e-261;
Matches 651; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNSTLEELNYKEFLRMTEDESSTEVLDNS 60
DB 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNSTLEELNYKEFLRMTEDESSTEVLDNS 60

QY 61 TVKDAVGTGIVGVGQILGVVGPFPAGALTSTFQSFNTIWPSDADPWKAFMAQVEVLIDK 120
DB 61 TVKDAVGTGIVGVGQILGVVGPFPAGALTSTFQSFNTIWPSDADPWKAFMAQVEVLIDK 120

QY 121 KIEEVAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLEFSAESHFRN 180
DB 121 KIEEVAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLEFSAESHFRN 180

QY 181 SMPFAVSKFEVLFLPTTAAQANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQY 240
DB 181 SMPFAVSKFEVLFLPTTAAQANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQY 240

QY 241 TDHCNVNWNVGLNGRGSTYDAWKFNRRREMTLTVDLIVLFPFYDIRLYSKGVKTEL 300
DB 241 TDHCNVNWNVGLNGRGSTYDAWKFNRRREMTLTVDLIVLFPFYDIRLYSKGVKTEL 300

QY 301 TRDIFTDPFSLNTLQEGPTFLSIENSRKPHLFDYLGQIEFHTRLQPGYFGKDSFNW 360
DB 301 TRDIFTDPFSLNTLQEGPTFLSIENSRKPHLFDYLGQIEFHTRLQPGYFGKDSFNW 360

QY 361 SGNVYETRISGSSKTIITSPFYGDKSTEPVKLSFDGQKVYRTIANTDVAAMPNGKVYL 420
DB 361 SGNVYETRISGSSKTIITSPFYGDKSTEPVKLSFDGQKVYRTIANTDVAAMPNGKVYL 420

QY 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLNVAE 480
DB 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLNVAE 480

QY 481 CFMLQDRRGTTIPFTTWTTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGTGNL 540
DB 481 CFMLQDRRGTTIPFTTWTTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGTGNL 540

QY 541 LFLKESSNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNDFLVYIINKTNK 600
DB 541 LFLKESSNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNDFLVYIINKTNK 600

QY 601 DDDLTYQTDFDLATNSNMGFSQDKNELIIGAESFVSNKEKIYIDKIEFIPVQL 652

DB 601 DDDLTYQTDFDLATNSNMGFSQDKNELIIGAESFVSNKEKIYIDKIEFIPVQL 652

RESULT 16
US-10-614-076-64
; Sequence 64, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas W.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terssch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 64
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-64

Query Match 99.7%; Score 3396; DB 15; Length 652;
Best Local Similarity 99.5%; Pred. No. 3.2e-261;
Matches 649; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNSTLEELNYKEFLRMTEDESSTEVLDNS 60
DB 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNSTLEELNYKEFLRMTEDESSTEVLDNS 60

QY 61 TVKDAVGTGIVGVGQILGVVGPFPAGALTSTFQSFNTIWPSDADPWKAFMAQVEVLIDK 120
DB 61 TVKDAVGTGIVGVGQILGVVGPFPAGALTSTFQSFNTIWPSDADPWKAFMAQVEVLIDK 120

QY 121 KIEEVAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLEFSAESHFRN 180
DB 121 KIEEVAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRLEFSAESHFRN 180

QY 181 SMPFAVSKFEVLFLPTTAAQANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQY 240
DB 181 SMPFAVSKFEVLFLPTTAAQANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQY 240

QY 241 TDHCNVNWNVGLNGRGSTYDAWKFNRRREMTLTVDLIVLFPFYDIRLYSKGVKTEL 300
DB 241 TDHCNVNWNVGLNGRGSTYDAWKFNRRREMTLTVDLIVLFPFYDIRLYSKGVKTEL 300

QY 301 TRDIFTDPFSLNTLQEGPTFLSIENSRKPHLFDYLGQIEFHTRLQPGYFGKDSFNW 360
DB 301 TRDIFTDPFSLNTLQEGPTFLSIENSRKPHLFDYLGQIEFHTRLQPGYFGKDSFNW 360

QY 361 SGNVYETRISGSSKTIITSPFYGDKSTEPVKLSFDGQKVYRTIANTDVAAMPNGKVYL 420
DB 361 SGNVYETRISGSSKTIITSPFYGDKSTEPVKLSFDGQKVYRTIANTDVAAMPNGKVYL 420

QY 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLNVAE 480
DB 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLNVAE 480

QY 481 CFMLQDRRGTTIPFTTWTTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGTGNL 540

Db 481 CFLMQDRRGTPFTTWTTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGNNL 540
Qy 541 LFLKESNSIAKPKVTLSAALLQRYVRIRYASTTNLRLPVQNSNDFLVIYINKTMNK 600
Db 541 LFLKESNSIAKPKVTLSAALLQRYVRIRYASTTNLRLPVQNSNDFLVIYINKTMNK 600
Qy 601 DDDLTYQTFLATTNSNMGFGSKNELIIGAESFVSNEKIYIDKIEFIPVQL 652
Db 601 DDDLTYQTFLATTNSNMGFGSKNELIIGAESFVSNEKIYIDKIEFIPVQL 652

RESULT 17
US-10-614-076-10
; Sequence 10, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 10
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-10

Query Match 99.7%; Score 3395; DB 15; Length 652;
Best Local Similarity 99.7%; Pred. No. 3.8e-261;
Matches 650; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MNPNNRSEHDTIKVTNPSELQTNHNYPLADNPNTLLEELNYKEFLRMTEDSDSSTEVLDNS 60
Db 1 MNPNNRSEHDTIKVTNPSELQTNHNYPLADNPNTLLEELNYKEFLRMTEDSDSSTEVLDNS 60
Qy 61 TVKDVGTSVVGQILGVVGPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
Db 61 TVKDVGTSVVGQILGVVGPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
Qy 121 KIEYAKSKALAEQLQNNFEDYVNALNSWKKTPLSLRSKRQDRIRLFSQAESHFRN 180
Db 121 KIEYAKSKALAEQLQNNFEDYVNALNSWKKTPLSLRSKRQDRIRLFSQAESHFRN 180
Qy 181 SMPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGSEWGYSSDVAEFYHROKLTKQY 240
Db 181 SMPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGSEWGYSSDVAEFYHROKLTKQY 240
Qy 241 TDHCVMNWNVGLNGLRGSTYDAWKFNRRREMTLVLDLILVLPFPYDIRLSKGVKTEL 300
Db 241 SDHCVMNWNVGLNGLRGSTYDAWKFNRRREMTLVLDLILVLPFPYDIRLSKGVKTEL 300
Qy 301 TRDIFTDPIFSLNTLOEYGTFTLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
Db 301 TRDIFTDPIFSLNTLOEYGTFTLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
Qy 361 SGNVETRPISGSKTITSPYGDKSTPEVQKLSFDQKQVYRTIANTDVAWPNKGKYL 420
Db 361 SGNVETRPISGSKTITSPYGDKSTPEVQKLSFDQKQVYRTIANTDVAWPNKGKYL 420

Qy 421 VTKVDFSQYDDQKNETSTQYDSKRNGHVSADSIDQLPPETTTDEPLEKAYSHQNVAE 480
Db 421 VTKVDFSQYDDQKNETSTQYDSKRNGHVSADSIDQLPPETTTDEPLEKAYSHQNVAE 480
Qy 481 CFLMQDRRGTPFTTWTTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGNNL 540
Db 481 CFLMQDRRGTPFTTWTTHRSVDFNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGNNL 540
Qy 541 LFLKESNSIAKPKVTLSAALLQRYVRIRYASTTNLRLPVQNSNDFLVIYINKTMNK 600
Db 541 LFLKESNSIAKPKVTLSAALLQRYVRIRYASTTNLRLPVQNSNDFLVIYINKTMNK 600
Qy 601 DDDLTYQTFLATTNSNMGFGSKNELIIGAESFVSNEKIYIDKIEFIPVQL 652
Db 601 DDDLTYQTFLATTNSNMGFGSKNELIIGAESFVSNEKIYIDKIEFIPVQL 652

RESULT 18
US-10-614-076-34
; Sequence 34, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 34
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-34

Query Match 99.7%; Score 3395; DB 15; Length 652;
Best Local Similarity 99.7%; Pred. No. 3.8e-261;
Matches 650; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNPNNRSEHDTIKVTNPSELQTNHNYPLADNPNTLLEELNYKEFLRMTEDSDSSTEVLDNS 60
Db 1 MNPNNRSEHDTIKVTNPSELQTNHNYPLADNPNTLLEELNYKEFLRMTEDSDSSTEVLDNS 60
Qy 61 TVKDVGTSVVGQILGVVGPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
Db 61 TVKDVGTSVVGQILGVVGPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
Qy 121 KIEYAKSKALAEQLQNNFEDYVNALNSWKKTPLSLRSKRQDRIRLFSQAESHFRN 180
Db 121 KIEYAKSKALAEQLQNNFEDYVNALNSWKKTPLSLRSKRQDRIRLFSQAESHFRN 180
Qy 181 SMPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGSEWGYSSDVAEFYHROKLTKQY 240
Db 181 SMPSFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGSEWGYSSDVAEFYHROKLTKQY 240
Qy 241 TDHCVMNWNVGLNGLRGSTYDAWKFNRRREMTLVLDLILVLPFPYDIRLSKGVKTEL 300
Db 241 TDHCVMNWNVGLNGLRGSTYDAWKFNRRREMTLVLDLILVLPFPYDIRLSKGVKTEL 300


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Db 61 TVKDAVGTGIVVVGQILGVVGPVFPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
Qy 121 KIEEYAKSALAELQGLQNNFEDYVNALNSWKKTPLSLRKSQRDRIRLFSQAESHFRN 180
Db 121 KIEEYAKSALAELQGLQNNFEDYVNALNSWKKTPLSLRKSQRDRIRLFSQAESHFRN 180
Qy 181 SMPFAVSKEVFLPPTYAAQANTHLLLLKDAQVFGSEWGYSEDVAEFYHROLKLTQQY 240
Db 181 SMPFAVSKEVFLPPTYAAQANTHLLLLKDAQVFGSEWGYSEDVAEFYHROLKLTQQY 240
Qy 241 TDHCVMNMYNGLNGLRGSTYDAWVKFNRFREMTLTVDLIVLPPFYDIRLYSKGVKTEL 300
Db 241 TDHCVMNMYNGLNGLRGSTYDAWVKFNRFREMTLTVDLIVLPPFYDIRLYSKGVKTEL 300
Qy 301 TRDIFTDPIFSLNTLOEYGTFTLSIENSRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
Db 301 TRDIFTDPIFSLNTLOEYGTFTLSIENSRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
Qy 361 SGNVETRPSIGSKTITSPFYGDKSTPEVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
Db 361 SGNVETRPSIGSKTITSPFYGDKSTPEVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
Qy 421 VTKVDFSQYDDQKNETSTQYDSKRNNHVSQAODSIDQLPPETDPLEKAYSHQLNYAE 480
Db 421 VTKVDFSQYDDQKNETSTQYDSKRNNHVSQAODSIDQLPPETDPLEKAYSHQLNYAE 480
Qy 481 CFLMQDRRGTIPTFTWTHRSVDFNTIDAEKITQLPVKAYALSSGASIIIEGFGTGGNL 540
Db 481 CFLMQDRRGTIPTFTWTHRSVDFNTIDAEKITQLPVKAYALSSGASIIIEGFGTGGNL 540
Qy 541 LFLKESNSIAKPKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDPLVIYINKTMNK 600
Db 541 LFLKESNSIAKPKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDPLVIYINKTMNK 600
Qy 601 DDLTYQTDFLATNSNMFGSGDKNELIIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 601 DDLTYQTDFLATNSNMFGSGDKNELIIIGAESFVSNEKIYIDKIEFIPVOL 652

RESULT 21
US-10-614-076-6
; Sequence 6, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terssch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: Patentin version 3.2
; SEQ ID NO 6
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-6

Query Match 99.6%; Score 3392; DB 15; Length 652;
Best Local Similarity 99.7%; Pred. No. 6.7e-261;
Matches 650; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

```

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Qy 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPSTLEELNYKEFLRMTEDSDSSTEVLDNS 60
Db 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPSTLEELNYKEFLRMTEDSDSSTEVLDNS 60
Qy 61 TVKDAVGTGIVVVGQILGVVGPVFPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGIVVVGQILGVVGPVFPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
Qy 121 KIEEYAKSALAELQGLQNNFEDYVNALNSWKKTPLSLRKSQRDRIRLFSQAESHFRN 180
Db 121 KIEEYAKSALAELQGLQNNFEDYVNALNSWKKTPLSLRKSQRDRIRLFSQAESHFRN 180
Qy 181 SMPFAVSKEVFLPPTYAAQANTHLLLLKDAQVFGSEWGYSEDVAEFYHROLKLTQQY 240
Db 181 SMPFAVSKEVFLPPTYAAQANTHLLLLKDAQVFGSEWGYSEDVAEFYHROLKLTQQY 240
Qy 241 TDHCVMNMYNGLNGLRGSTYDAWVKFNRFREMTLTVDLIVLPPFYDIRLYSKGVKTEL 300
Db 241 TDHCVMNMYNGLNGLRGSTYDAWVKFNRFREMTLTVDLIVLPPFYDIRLYSKGVKTEL 300
Qy 301 TRDIFTDPIFSLNTLOEYGTFTLSIENSRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
Db 301 TRDIFTDPIFSLNTLOEYGTFTLSIENSRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
Qy 361 SGNVETRPSIGSKTITSPFYGDKSTPEVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
Db 361 SGNVETRPSIGSKTITSPFYGDKSTPEVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
Qy 421 VTKVDFSQYDDQKNETSTQYDSKRNNHVSQAODSIDQLPPETDPLEKAYSHQLNYAE 480
Db 421 VTKVDFSQYDDQKNETSTQYDSKRNNHVSQAODSIDQLPPETDPLEKAYSHQLNYAE 480
Qy 481 CFLMQDRRGTIPTFTWTHRSVDFNTIDAEKITQLPVKAYALSSGASIIIEGFGTGGNL 540
Db 481 CFLMQDRRGTIPTFTWTHRSVDFNTIDAEKITQLPVKAYALSSGASIIIEGFGTGGNL 540
Qy 541 LFLKESNSIAKPKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDPLVIYINKTMNK 600
Db 541 LFLKESNSIAKPKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDPLVIYINKTMNK 600
Qy 601 DDLTYQTDFLATNSNMFGSGDKNELIIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 601 DDLTYQTDFLATNSNMFGSGDKNELIIIGAESFVSNEKIYIDKIEFIPVOL 652

RESULT 22
US-10-614-076-30
; Sequence 30, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terssch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: Patentin version 3.2
; SEQ ID NO 30
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence

```

```

; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-30

Query Match      99.6%; Score 3392; DB 15; Length 652;
Best Local Similarity 99.7%; Pred. No. 6.7e-261;
Matches 650; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSSSTEVLDNS 60
DB 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSSSTEVLDNS 60
QY 61 TVKDAVGTGISVVGQILGVGVPPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
DB 61 TVKDAVGTGISVVGQILGVGVPPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
QY 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRRELFSQAESHFRN 180
DB 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRRELFSQAESHFRN 180
QY 181 SMPFAVSKFEVLFLPTYAQAAANTHLLLLKDAQVGEWGYSSSDVAEFYHRQLKLTQY 240
DB 181 SMPFAVSKFEVLFLPTYAQAAANTHLLLLKDAQVGEWGYSSSDVAEFYHRQLKLTQY 240
QY 241 TDHCVNWNVGLNGLRGSTDYDAWKFNRRREMTLTVLDLIVLFFPYDIRLYSKGVKTEL 300
DB 241 TDHCVNWNVGLNGLRGSTDYDAWKFNRRREMTLTVLDLIVLFFPYDIRLYSKGVKTEL 300
QY 301 TRDIFTDPIFLNTLQEQYPTFLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
DB 301 TRDIFTDPIFLNTLQEQYPTFLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
QY 361 SGNVETRPSIGSSKTIITSPFYGDKSTPEVKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
DB 361 SGNVETRPSIGSSKTIITSPFYGDKSTPEVKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
QY 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLNVAE 480
DB 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLNVAE 480
QY 481 CFLMDRRGTIPFFTWTHRSVDFNTIDAETITQLPVPVKAYALSSGASIEEGPFTGGNL 540
DB 481 CFLMDRRGTIPFFTWTHRSVDFNTIDAETITQLPVPVKAYALSSGASIEEGPFTGGNL 540
QY 541 LFLKSSNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
DB 541 LFLKSSNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
QY 601 DDDLTYQTFTPLATNSNMGFGSKDNELIIGAESFVSNKIIYIDKIEFIPVQL 652
DB 601 DDDLTYQTFTPLATNSNMGFGSKDNELIIGAESFVSNKIIYIDKIEFIPVQL 652

RESULT 23
US-10-614-076-60
; Sequence 60, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terssch, Michael A.
; FILE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; TITLE REFERENCE: MCO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR APPLICATION NUMBER: 08/993,722

```

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; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; OTHER INFORMATION: PatentIn version 3.2
; SEQ ID NO 60
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-60

Query Match      99.6%; Score 3392; DB 15; Length 652;
Best Local Similarity 99.5%; Pred. No. 6.7e-261;
Matches 649; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSSSTEVLDNS 60
DB 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSSSTEVLDNS 60
QY 61 TVKDAVGTGISVVGQILGVGVPPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
DB 61 TVKDAVGTGISVVGQILGVGVPPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
QY 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRRELFSQAESHFRN 180
DB 121 KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRRELFSQAESHFRN 180
QY 181 SMPFAVSKFEVLFLPTYAQAAANTHLLLLKDAQVGEWGYSSSDVAEFYHRQLKLTQY 240
DB 181 SMPFAVSKFEVLFLPTYAQAAANTHLLLLKDAQVGEWGYSSSDVAEFYHRQLKLTQY 240
QY 241 TDHCVNWNVGLNGLRGSTDYDAWKFNRRREMTLTVLDLIVLFFPYDIRLYSKGVKTEL 300
DB 241 TDHCVNWNVGLNGLRGSTDYDAWKFNRRREMTLTVLDLIVLFFPYDIRLYSKGVKTEL 300
QY 301 TRDIFTDPIFLNTLQEQYPTFLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
DB 301 TRDIFTDPIFLNTLQEQYPTFLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
QY 361 SGNVETRPSIGSSKTIITSPFYGDKSTPEVKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
DB 361 SGNVETRPSIGSSKTIITSPFYGDKSTPEVKLSFDGQKVYRTIANTDVAAPNGKVYLG 420
QY 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLNVAE 480
DB 421 VTKVDFSQYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLNVAE 480
QY 481 CFLMDRRGTIPFFTWTHRSVDFNTIDAETITQLPVPVKAYALSSGASIEEGPFTGGNL 540
DB 481 CFLMDRRGTIPFFTWTHRSVDFNTIDAETITQLPVPVKAYALSSGASIEEGPFTGGNL 540
QY 541 LFLKSSNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
DB 541 LFLKSSNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
QY 601 DDDLTYQTFTPLATNSNMGFGSKDNELIIGAESFVSNKIIYIDKIEFIPVQL 652
DB 601 DDDLTYQTFTPLATNSNMGFGSKDNELIIGAESFVSNKIIYIDKIEFIPVQL 652

RESULT 24
US-10-614-076-16
; Sequence 16, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terssch, Michael A.

```

; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614.076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 16
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-16

Query Match 99.5%; Score 3390; DB 15; Length 652;
Best Local Similarity 99.5%; Pred. No. 9.6e-261;
Matches 649; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

Qy	1	MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPSTLEELNYKEFLRMTDSSTEVLDNS	60
Db	1	MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPSTLEELNYKEFLRMTDSSTEVLDNS	60
Qy	61	TVKDAVGTGISVVGQILGVGVPPAGALTSFYOSFLNTIWPSDADPWKAPMAQVEVLIDK	120
Db	61	TVKDAVGTGISVVGQILGVGVPPAGALTSFYOSFLNTIWPSDADPWKAPMAQVEVLIDK	120
Qy	121	KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSDRIRELFSQAESHFRN	180
Db	121	KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSDRIRELFSQAESHFRN	180
Qy	181	SMSPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQOY	240
Db	181	SMSPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQOY	240
Qy	241	TDHCVMNWNVGLNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPYDIRLYSKGVKTEL	300
Db	241	TDHCVMNWNVGLNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPYDIRLYSKGVKTEL	300
Qy	301	TRDIFTDPIFLNTLQEGYPTPLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW	360
Db	301	TRDIFTDPIFLNTLQEGYPTPLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW	360
Qy	361	SGNYVETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAMPNGKVYLG	420
Db	361	SGNYVETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAMPNGKVYLG	420
Qy	421	VTKVDFSQYDDQKNETSTQYDSKRNGHVSQAQSDIDQLPETTDEPLEKAYSHQNLNAYE	480
Db	421	VTKVDFSQYDDQKNETSTQYDSKRNGHVSQAQSDIDQLPETTDEPLEKAYSHQNLNAYE	480
Qy	481	CFLMQDRRGITPFTTWTTHRSVDFNTIDAEKITQLPVKAYALSSGASIIIEGPGFTGGNL	540
Db	481	CFLMQDRRGITPFTTWTTHRSVDFNTIDAEKITQLPVKAYALSSGASIIIEGPGFTGGNL	540
Qy	541	LFLKSSNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK	600
Db	541	LFLKSSNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK	600
Qy	601	DDDLTYQTDFLATNNSMGSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL	652
Db	601	DDDLTYQTDFLATNNSMGSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL	652

RESULT 25

US-10-614-076-18

; Sequence 18, Application US/10614076

; Publication No. US20040033523A1

; GENERAL INFORMATION:

; APPLICANT: English, Leigh H.

; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Byson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614.076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 18
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-18

Query Match 99.5%; Score 3390; DB 15; Length 652;
Best Local Similarity 99.5%; Pred. No. 9.6e-261;
Matches 649; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy	1	MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPSTLEELNYKEFLRMTDSSTEVLDNS	60
Db	1	MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPSTLEELNYKEFLRMTDSSTEVLDNS	60
Qy	61	TVKDAVGTGISVVGQILGVGVPPAGALTSFYOSFLNTIWPSDADPWKAPMAQVEVLIDK	120
Db	61	TVKDAVGTGISVVGQILGVGVPPAGALTSFYOSFLNTIWPSDADPWKAPMAQVEVLIDK	120
Qy	121	KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSDRIRELFSQAESHFRN	180
Db	121	KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSDRIRELFSQAESHFRN	180
Qy	181	SMSPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQOY	240
Db	181	SMSPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQOY	240
Qy	241	TDHCVMNWNVGLNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPYDIRLYSKGVKTEL	300
Db	241	TDHCVMNWNVGLNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPYDIRLYSKGVKTEL	300
Qy	301	TRDIFTDPIFLNTLQEGYPTPLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW	360
Db	301	TRDIFTDPIFLNTLQEGYPTPLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW	360
Qy	361	SGNYVETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAMPNGKVYLG	420
Db	361	SGNYVETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAMPNGKVYLG	420
Qy	421	VTKVDFSQYDDQKNETSTQYDSKRNGHVSQAQSDIDQLPETTDEPLEKAYSHQNLNAYE	480
Db	421	VTKVDFSQYDDQKNETSTQYDSKRNGHVSQAQSDIDQLPETTDEPLEKAYSHQNLNAYE	480
Qy	481	CFLMQDRRGITPFTTWTTHRSVDFNTIDAEKITQLPVKAYALSSGASIIIEGPGFTGGNL	540
Db	481	CFLMQDRRGITPFTTWTTHRSVDFNTIDAEKITQLPVKAYALSSGASIIIEGPGFTGGNL	540
Qy	541	LFLKSSNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK	600
Db	541	LFLKSSNSIAKFKVTLNSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK	600
Qy	601	DDDLTYQTDFLATNNSMGSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL	652
Db	601	DDDLTYQTDFLATNNSMGSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL	652

RESULT 26
US-10-614-076-40
; Sequence 40, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas W.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 40
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-40

Query Match 99.5%; Score 3390; DB 15; Length 652;
Best Local Similarity 99.5%; Pred. No. 9.6e-261;
Matches 649; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

Qy 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTESSSTEVLNLS 60
Db 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTESSSTEVLNLS 60
Qy 61 TVKDAVGTGISVVGQILGVVGPFPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGISVVGQILGVVGPFPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
Qy 121 KIEEVAKSKALAELOGLQNNFEDYVNALNSWKTPLSLRKSKSQDRIRLEFSAESHFNRN 180
Db 121 KIEEVAKSKALAELOGLQNNFEDYVNALNSWKTPLSLRKSKSQDRIRLEFSAESHFNRN 180
Qy 181 SMPFAVSKFEVLFLPTVYAAQANTHLLLLKDAQVGEWGYSSSEDVAEFYHRLKLTQOY 240
Db 181 SMPFAVSKFEVLFLPTVYAAQANTHLLLLKDAQVGEWGYSSSEDVAEFYHRLKLTQOY 240
Qy 241 TDHCNVNNGVGLRGSTYDAWKFNRRREMTLTVLDLIVLFPFYDIRLYSKGVKTEL 300
Db 241 TDHCNVNNGVGLRGSTYDAWKFNRRREMTLTVLDLIVLFPFYDIRLYSKGVKTEL 300
Qy 301 TRDIFTDFISLNTLOEYGPFLSIENSRKPHLDYLOGIEFHRLQPGYFGKDSFNW 360
Db 301 TRDIFTDFISLNTLOEYGPFLSIENSRKPHLDYLOGIEFHRLQPGYFGKDSFNW 360
Qy 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAMPNGKVYLG 420
Db 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAMPNGKVYLG 420
Qy 481 CFLMQDRRGTIPTFTWTHRSVDFNTIDAEKITQLPVKAYALSSGASIIIEGPGFTGNNL 540
Db 481 CFLMQDRRGTIPTFTWTHRSVDFNTIDAEKITQLPVKAYALSSGASIIIEGPGFTGNNL 540
Qy 541 LFLKESNSIAKPKVTLSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600

Db 541 LFLKESNSIAKPKVTLSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
Qy 601 DDDLTYQTFDLATTSNMGFGDKNELIIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 601 DDDLTYQTFDLATTSNMGFGDKNELIIIGAESFVSNEKIYIDKIEFIPVOL 652

RESULT 27
US-10-614-076-4
; Sequence 4, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas W.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 4
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-4

Query Match 99.5%; Score 3389; DB 15; Length 652;
Best Local Similarity 99.7%; Pred. No. 1.2e-260;
Matches 650; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTESSSTEVLNLS 60
Db 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTESSSTEVLNLS 60
Qy 61 TVKDAVGTGISVVGQILGVVGPFPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGISVVGQILGVVGPFPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
Qy 121 KIEEVAKSKALAELOGLQNNFEDYVNALNSWKTPLSLRKSKSQDRIRLEFSAESHFNRN 180
Db 121 KIEEVAKSKALAELOGLQNNFEDYVNALNSWKTPLSLRKSKSQDRIRLEFSAESHFNRN 180
Qy 181 SMPFAVSKFEVLFLPTVYAAQANTHLLLLKDAQVGEWGYSSSEDVAEFYHRLKLTQOY 240
Db 181 SMPFAVSKFEVLFLPTVYAAQANTHLLLLKDAQVGEWGYSSSEDVAEFYHRLKLTQOY 240
Qy 241 TDHCNVNNGVGLRGSTYDAWKFNRRREMTLTVLDLIVLFPFYDIRLYSKGVKTEL 300
Db 241 TDHCNVNNGVGLRGSTYDAWKFNRRREMTLTVLDLIVLFPFYDIRLYSKGVKTEL 300
Qy 301 TRDIFTDFISLNTLOEYGPFLSIENSRKPHLDYLOGIEFHRLQPGYFGKDSFNW 360
Db 301 TRDIFTDFISLNTLOEYGPFLSIENSRKPHLDYLOGIEFHRLQPGYFGKDSFNW 360
Qy 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAMPNGKVYLG 420
Db 361 SGNVYETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAMPNGKVYLG 420
Qy 421 VTKVDFPSYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPETTDPELEKAYSHQNLVNAE 480

Db 421 VTKVDFSQYDDQKNETSTQTYDSKRNNHVSQAQSDIDQLPPETTTDEPLEKAYSHQLNYAE 480
Qy 481 CFLMQDRRGITPFTTWTTHRSVDFNTIDAETITOLPVVKAYALSSGASIIIEGPGFTGNNL 540
Db 481 CFLMQDRRGITPFTTWTTHRSVDFNTIDAETITOLPVVKAYALSSGASIIIEGPGFTGNNL 540
Qy 541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLVQNSNNDFLVIYINKTMNK 600
Db 541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLVQNSNNDFLVIYINKTMNK 600
Qy 601 DDDLTYQTFDLATNSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 601 DDDLTYQTFDLATNSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652

RESULT 28
US-10-614-076-52
; Sequence 52, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614.076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 52
; LENGTH: 651
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-52

Query Match 99.5%; Score 3387.5; DB 15; Length 651;
Best Local Similarity 99.7%; Pred. No. 1.5e-260;
Matches 650; Conservative 1; Mismatches 0; Indels 1; Gaps 1;
Qy 1 MNPNNRSEHDTIKVTNSQLQTHNQYPLADNPNSLTLEELNYKEFLRMTESSSTEVLNDS 60
Db 1 MNPNNRSEHDTIKVTNSQLQTHNQYPLADNPNSLTLEELNYKEFLRMTESSSTEVLNDS 60
Qy 61 TVKDAVGTGIVSVGQILGVGVFPAGALTSTFYQSFNTIWPSE-DPKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGIVSVGQILGVGVFPAGALTSTFYQSFNTIWPSE-DPKAFMAQVEVLIDK 119
Qy 121 KIEEYAKSKALAEQLQGNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSAQESHFRN 180
Db 120 KIEEYAKSKALAEQLQGNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSAQESHFRN 179
Qy 181 SMPSPAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEGYSSEDAEFVHRQLKLTQOY 240
Db 180 SMPSPAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEGYSSEDAEFVHRQLKLTQOY 239
Qy 241 TDHCVMYNYGLNGRSTYDAWKFNRRFMTLTVLVDLIVLFPFYDIRLYSGVKTEL 300
Db 240 TDHCVMYNYGLNGRSTYDAWKFNRRFMTLTVLVDLIVLFPFYDIRLYSGVKTEL 299
Qy 301 TRDIFTDPIESLNTLOEYGTFTFLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 360
Db 300 TRDIFTDPIESLNTLOEYGTFTFLSIENSIRKPHLFDYLOGIEFHTRLQPGYFGKDSFNW 359

Qy 361 SGNVETRPSIGSKITTSFYGDKSTPEYVKLSFDQKVVYRTIANTDVAAMPNGKVYLG 420
Db 360 SGNVETRPSIGSKITTSFYGDKSTPEYVKLSFDQKVVYRTIANTDVAAMPNGKVYLG 419
Qy 421 VTKVDFSQYDDQKNETSTQTYDSKRNNHVSQAQSDIDQLPPETTTDEPLEKAYSHQLNYAE 480
Db 420 VTKVDFSQYDDQKNETSTQTYDSKRNNHVSQAQSDIDQLPPETTTDEPLEKAYSHQLNYAE 479
Qy 481 CFLMQDRRGITPFTTWTTHRSVDFNTIDAETITOLPVVKAYALSSGASIIIEGPGFTGNNL 540
Db 480 CFLMQDRRGITPFTTWTTHRSVDFNTIDAETITOLPVVKAYALSSGASIIIEGPGFTGNNL 539
Qy 541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLVQNSNNDFLVIYINKTMNK 600
Db 540 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLVQNSNNDFLVIYINKTMNK 599
Qy 601 DDDLTYQTFDLATNSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 600 DDDLTYQTFDLATNSNMGFSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 651

RESULT 29
US-10-614-076-24
; Sequence 24, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614.076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 24
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-24

Query Match 99.4%; Score 3387; DB 15; Length 652;
Best Local Similarity 99.4%; Pred. No. 1.7e-260;
Matches 648; Conservative 2; Mismatches 2; Indels 0; Gaps 0;
Qy 1 MNPNNRSEHDTIKVTNSQLQTHNQYPLADNPNSLTLEELNYKEFLRMTESSSTEVLNDS 60
Db 1 MNPNNRSEHDTIKVTNSQLQTHNQYPLADNPNSLTLEELNYKEFLRMTESSSTEVLNDS 60
Qy 61 TVKDAVGTGIVSVGQILGVGVFPAGALTSTFYQSFNTIWPSE-DPKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGIVSVGQILGVGVFPAGALTSTFYQSFNTIWPSE-DPKAFMAQVEVLIDK 120
Qy 121 KIEEYAKSKALAEQLQGNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSAQESHFRN 180
Db 121 KIEEYAKSKALAEQLQGNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSAQESHFRN 180
Qy 181 SMPSPAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEGYSSEDAEFVHRQLKLTQOY 240
Db 181 SMPSPAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEGYSSEDAEFVHRQLKLTQOY 240

Db 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNSLTLEELNYKEFLRMTEDSDSTEVLDS 60
Qy 61 TVKDAVGTGIVSVGQILGVVGPAGALTSFYQSFLNTIWPSSADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGIVSVGQILGVVGPAGALTSFYQSFLNTIWPSSADPWKAFMAQVEVLIDK 120
Qy 121 KIEBYAKSKALAEQLQGNFEDYVNALNSWKKTPLSLRSKRSDRIRELFSQAESHFRN 180
Db 121 KIEBYAKSKALAEQLQGNFEDYVNALNSWKKTPLSLRPHSQGRIRELFSQAESHFRN 180
Qy 181 SMPFAVSKFVFLPPTYAQAAANTHLLKDAQVGEENGWYSSYEDVAEFYHRLKLTQY 240
Db 181 SMPFAVSKFVFLPPTYAQAAANTHLLKDAQVGEENGWYSSYEDVAEFYHRLKLTQY 240
Qy 241 TDHCVNMYNGLNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPYDIRLYSGVKTEL 300
Db 241 TDHCVNMYNGLNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPYDIRLYSGVKTEL 300
Qy 301 TRDIFTDPIFSLNTLOEYGTPTFLSIENSRKPHLFDYLOQIEFHTRLPQGYFGKDSFNW 360
Db 301 TRDIFTDPIFSLNTLOEYGTPTFLSIENSRKPHLFDYLOQIEFHTRLPQGYFGKDSFNW 360
Qy 361 SGNVETRPISGSKTITSPFYGDKSTPEVQKLSFDQKQVYRTIANTDVAAPNGKVLG 420
Db 361 SGNVETRPISGSKTITSPFYGDKSTPEVQKLSFDQKQVYRTIANTDVAAPNGKVLG 420
Qy 421 VTKVDSQYDDQKNETSTQYDSKRNNGHVSAODSIDQLPETTDEPLEKAYSHQLNYAE 480
Db 421 VTKVDSQYDDQKNETSTQYDSKRNNGHVSAODSIDQLPETTDEPLEKAYSHQLNYAE 480
Qy 481 CFLMQDRRGITPFTTTHRSVDFPNTIDAEKITQLPVVKAVALSSGASIIIEGFGTGGNL 540
Db 481 CFLMQDRRGITPFTTTHRSVDFPNTIDAEKITQLPVVKAVALSSGASIIIEGFGTGGNL 540
Qy 541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDPLVIYINKTMNK 600
Db 541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDPLVIYINKTMNK 600
Qy 601 DDDLTYQTFDLATNSNMGFSGDKNELIIGAESFVSNKEIYIDKIEFIPVOL 652
Db 601 DDDLTYQTFDLATNSNMGFSGDKNELIIGAESFVSNKEIYIDKIEFIPVOL 652

RESULT 32

US-10-614-076-22
; Sequence 22, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersach, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO-218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR FILING DATE: 1999-10-27
; PRIOR FILING DATE: 1999-10-27
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: Patentin version 3.2
; SEQ ID NO 22
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-22

Query Match 99.13%; Score 3382; DB 15; Length 652;
Best Local Similarity 99.4%; Pred No. 4.2e-260;
Matches 648; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

Qy 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNSLTLEELNYKEFLRMTEDSDSTEVLDS 60
Db 1 MNPNNRSEHDTIKVTNPSELQTNHNOYPLADNPNSLTLEELNYKEFLRMTEDSDSTEVLDS 60
Qy 61 TVKDAVGTGIVSVGQILGVVGPAGALTSFYQSFLNTIWPSSADPWKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGIVSVGQILGVVGPAGALTSFYQSFLNTIWPSSADPWKAFMAQVEVLIDK 120
Qy 121 KIEBYAKSKALAEQLQGNFEDYVNALNSWKKTPLSLRSKRSDRIRELFSQAESHFRN 180
Db 121 KIEBYAKSKALAEQLQGNFEDYVNALNSWKKTPLSLRSKRSDRIRELFSQAESHFRN 180
Qy 181 SMPFAVSKFVFLPPTYAQAAANTHLLKDAQVGEENGWYSSYEDVAEFYHRLKLTQY 240
Db 181 SMPFAVSKFVFLPPTYAQAAANTHLLKDAQVGEENGWYSSYEDVAEFYHRLKLTQY 240
Qy 241 TDHCVNMYNGLNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPYDIRLYSGVKTEL 300
Db 241 TDHCVNMYNGLNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPYDIRLYSGVKTEL 300
Qy 301 TRDIFTDPIFSLNTLOEYGTPTFLSIENSRKPHLFDYLOQIEFHTRLPQGYFGKDSFNW 360
Db 301 TRDIFTDPIFSLNTLOEYGTPTFLSIENSRKPHLFDYLOQIEFHTRLPQGYFGKDSFNW 360
Qy 361 SGNVETRPISGSKTITSPFYGDKSTPEVQKLSFDQKQVYRTIANTDVAAPNGKVLG 420
Db 361 SGNVETRPISGSKTITSPFYGDKSTPEVQKLSFDQKQVYRTIANTDVAAPNGKVLG 420
Qy 421 VTKVDSQYDDQKNETSTQYDSKRNNGHVSAODSIDQLPETTDEPLEKAYSHQLNYAE 480
Db 421 VTKVDSQYDDQKNETSTQYDSKRNNGHVSAODSIDQLPETTDEPLEKAYSHQLNYAE 480
Qy 481 CFLMQDRRGITPFTTTHRSVDFPNTIDAEKITQLPVVKAVALSSGASIIIEGFGTGGNL 540
Db 481 CFLMQDRRGITPFTTTHRSVDFPNTIDAEKITQLPVVKAVALSSGASIIIEGFGTGGNL 540
Qy 541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDPLVIYINKTMNK 600
Db 541 LFLKESNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDPLVIYINKTMNK 600
Qy 601 DDDLTYQTFDLATNSNMGFSGDKNELIIGAESFVSNKEIYIDKIEFIPVOL 652
Db 601 DDDLTYQTFDLATNSNMGFSGDKNELIIGAESFVSNKEIYIDKIEFIPVOL 652

RESULT 33

US-10-614-076-36
; Sequence 36, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersach, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO-218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR FILING DATE: 1999-10-27
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: Patentin version 3.2
US-10-614-076-36

; SEQ ID NO 36
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-36

Query Match 99.2%; Score 3380; DB 15; Length 652;
Best Local Similarity 99.4%; Pred. No. 6e-260;
Matches 648; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY	1	MNPNNRSEHDTIKVTPNSELQTNHNOYPLADNPSTLLELNKYKEFLRMTESSSTEVLDS	60
Db	1	MNPNNRSEHDTIKVTPNSELQTNHNOYPLADNPSTLLELNKYKEFLRMTESSSTEVLDS	60
QY	61	TVKDAVGTGISVVGQILGVGVPFAGALTSTFYQSFLNTIWPSDADPWKAFMAQVEVLIDK	120
Db	61	TVKDAVGTGISVVGQILGVGVPFAGALTSTFYQSFLNTIWPSDADPWKAFMAQVEVLIDK	120
QY	121	KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHFRN	180
Db	121	KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHFRN	180
QY	181	SMPSPAVSKFEVLFLPTVYQAANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQOY	240
Db	181	SMPSPAVSKFEVLFLPTVYQAANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQOY	240
QY	241	TDHCNNWYVGLNGLRGTYDAWKFNRRREMTLTVLDLIVLPPFYDIRLYSKGVKTEL	300
Db	241	TDHCNNWYVGLNGLRGTYDAWKFNRRREMTLTVLDLIVLPPFYDIRLYSKGVKTEL	300
QY	301	TRDIFTDPIFSLNLTQEQYPTFLSIENSIRKPHLFDYLOQIEFHTRLQPGYFGKDSFNW	360
Db	301	TRDIFTDPIFSLNLTQEQYPTFLSIENSIRKPHLFDYLOQIEFHTRLQPGYFGKDSFNW	360
QY	361	SGNYVETRPSIGSSKTIITSPFYGDKSTPEVKLSFDGQKVYRTIANTDVAAMPNGKVYLG	420
Db	361	SGNYVETRPSIGSSKTIITSPFYGDKSTPEVKLSFDGQKVYRTIANTDVAAMPNGKVYLG	420
QY	421	VTKVDFSOYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLN	480
Db	421	VTKVDFSOYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLN	480
QY	541	LFLKESNSIAKFKVTLSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK	600
Db	541	LFLKESNSIAKFKVTLSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK	600
QY	601	DDDLTYQTFLDATTNSNMFGSGDKNELIIGAESFVSNKIIYIDKIEFIPVQL	652
Db	601	DDDLTYQTFLDATTNSNMFGSGDKNELIIGAESFVSNKIIYIDKIEFIPVQL	652

RESULT 34
US-10-614-076-38
; Sequence 38, Application US/10614076
; Publication No. US2004003523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussack, Susan M.
; APPLICANT: Bryson, Thomas W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076

Query Match 99.2%; Score 3380; DB 15; Length 652;
Best Local Similarity 99.4%; Pred. No. 6e-260;
Matches 648; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY	1	MNPNNRSEHDTIKVTPNSELQTNHNOYPLADNPSTLLELNKYKEFLRMTESSSTEVLDS	60
Db	1	MNPNNRSEHDTIKVTPNSELQTNHNOYPLADNPSTLLELNKYKEFLRMTESSSTEVLDS	60
QY	61	TVKDAVGTGISVVGQILGVGVPFAGALTSTFYQSFLNTIWPSDADPWKAFMAQVEVLIDK	120
Db	61	TVKDAVGTGISVVGQILGVGVPFAGALTSTFYQSFLNTIWPSDADPWKAFMAQVEVLIDK	120
QY	121	KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHFRN	180
Db	121	KIEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHFRN	180
QY	181	SMPSPAVSKFEVLFLPTVYQAANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQOY	240
Db	181	SMPSPAVSKFEVLFLPTVYQAANTHLLLLKDAQVGEWGYSSDVAEFYHRQLKLTQOY	240
QY	241	TDHCNNWYVGLNGLRGTYDAWKFNRRREMTLTVLDLIVLPPFYDIRLYSKGVKTEL	300
Db	241	TDHCNNWYVGLNGLRGTYDAWKFNRRREMTLTVLDLIVLPPFYDIRLYSKGVKTEL	300
QY	301	TRDIFTDPIFSLNLTQEQYPTFLSIENSIRKPHLFDYLOQIEFHTRLQPGYFGKDSFNW	360
Db	301	TRDIFTDPIFSLNLTQEQYPTFLSIENSIRKPHLFDYLOQIEFHTRLQPGYFGKDSFNW	360
QY	361	SGNYVETRPSIGSSKTIITSPFYGDKSTPEVKLSFDGQKVYRTIANTDVAAMPNGKVYLG	420
Db	361	SGNYVETRPSIGSSKTIITSPFYGDKSTPEVKLSFDGQKVYRTIANTDVAAMPNGKVYLG	420
QY	421	VTKVDFSOYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLN	480
Db	421	VTKVDFSOYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPPTTDEPLEKAYSHQNLN	480
QY	541	LFLKESNSIAKFKVTLSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK	600
Db	541	LFLKESNSIAKFKVTLSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK	600
QY	601	DDDLTYQTFLDATTNSNMFGSGDKNELIIGAESFVSNKIIYIDKIEFIPVQL	652
Db	601	DDDLTYQTFLDATTNSNMFGSGDKNELIIGAESFVSNKIIYIDKIEFIPVQL	652

RESULT 35
US-10-614-076-50
; Sequence 50, Application US/10614076
; Publication No. US2004003523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussack, Susan M.
; APPLICANT: Malvar, Thomas W.
; APPLICANT: Bryson, James W.

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; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 50
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-50

Query Match          99.2%; Score 3379; DB 15; Length 652;
Best Local Similarity 99.1%; Pred. No. 7.2e-260;
Matches 646; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

Qy      1  MNPNRSEHDTIKVTNPSELQTNHNOYPLADNPNTLEELNYKEFLRMTEDSDSTEVLNLS 60
Db      1  MNPNRSEHDTIKVTNPSELQTNHNOYPLADNPNTLEELNYKEFLRMTEDSDSTEVLNLS 60

Qy      61  TVKDVGVTGIVSVVQILGVVGVFPAGALTSTFYOSFLNTIWPSDADPWKAPMAQVEVLIDK 120
Db      61  TVKDVGVTGIVSVVQILGVVGVFPAGALTSTFYOSFLNTIWPSDADPWKAPMAQVEVLIDK 120

Qy      121  KIEEYAKSALAEQLQGNLFEDYVNALNSWKKTPLSLRSKRQDRIRLFSQAESHFRN 180
Db      121  KIEEYAKSALAEQLQGNLFEDYVNALNSWKKTPLSLRNPHQGRIRLFSQAESHFRN 180

Qy      181  SMPFSAVSKFEVLFLPTYAAQANTHLLLLKDAQVFGEEWGYSSSEDVAEFYHRLQKLTQOY 240
Db      181  SMPFSAVSKFEVLFLPTYAAQANTHLLLLKDAQVFGEEWGYSSSEDVAEFYHRLQKLTQOY 240

Qy      241  TDHCVMNMYNGLNLRGSTYDAWKFNRRPREMTLTVDLILVLPFYDRLYKSGVKTEL 300
Db      241  TDHCVMNMYNGLNLRGSTYDAWKFNRRPREMTLTVDLILVLPFYDRLYKSGVKTEL 300

Qy      301  TRDIFTDPIFSLNTLOEYGTFLSIENSIRKPHLFDYLOGIEFHTRLQPCYFGKDSFNW 360
Db      301  TRDIFTDPIFSLNTLOEYGTFLSIENSIRKPHLFDYLOGIEFHTRLQPCYFGKDSFNW 360

Qy      361  SGNVETRPSIGSKTITSPFYGDKSTEPVKLSFDGQKVYRTIANTDVAWPNKGKYL 420
Db      361  SGNVETRPSIGSKTITSPFYGDKSTEPVKLSFDGQKVYRTIANTDVAWPNKGKYL 420

Qy      421  VTQVDFSQYDDQKNETSTQYDSKRNGHVSQAQSDIDQLPPETTDPLEKAYSHQLNYAE 480
Db      421  VTQVDFSQYDDQKNETSTQYDSKRNGHVSQAQSDIDQLPPETTDPLEKAYSHQLNYAE 480

Qy      481  CFLMQDRRGITIPFTTWTTHRSVDFPNTIDAEKITQLPVKAYALSSGASIIIEGPGFTGGNL 540
Db      481  CFLMQDRRGITIPFTTWTTHRSVDFPNTIDAEKITQLPVKAYALSSGASIIIEGPGFTGGNL 540

Qy      541  LFLKSSNSIAKPKVTLSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
Db      541  LFLKSSNSIAKPKVTLSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600

Qy      601  DDLTYQTDFLATNSMGSGDKNELIIGAESFVSNKEIYIDKIEFIPVQL 652
Db      601  DDLTYQTDFLATNSMGSGDKNELIIGAESFVSNKEIYIDKIEFIPVQL 652

RESULT 36
US-10-614-076-2

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; Sequence 2, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 2
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-2

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Query Match          99.1%; Score 3377; DB 15; Length 652;
Best Local Similarity 99.4%; Pred. No. 1e-259;
Matches 648; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

Qy      1  MNPNRSEHDTIKVTNPSELQTNHNOYPLADNPNTLEELNYKEFLRMTEDSDSTEVLNLS 60
Db      1  MNPNRSEHDTIKVTNPSELQTNHNOYPLADNPNTLEELNYKEFLRMTEDSDSTEVLNLS 60

Qy      61  TVKDVGVTGIVSVVQILGVVGVFPAGALTSTFYOSFLNTIWPSDADPWKAPMAQVEVLIDK 120
Db      61  TVKDVGVTGIVSVVQILGVVGVFPAGALTSTFYOSFLNTIWPSDADPWKAPMAQVEVLIDK 120

Qy      121  KIEEYAKSALAEQLQGNLFEDYVNALNSWKKTPLSLRSKRQDRIRLFSQAESHFRN 180
Db      121  KIEEYAKSALAEQLQGNLFEDYVNALNSWKKTPLSLRSKRQDRIRLFSQAESHFRN 180

Qy      181  SMPFSAVSKFEVLFLPTYAAQANTHLLLLKDAQVFGEEWGYSSSEDVAEFYHRLQKLTQOY 240
Db      181  SMPFSAVSKFEVLFLPTYAAQANTHLLLLKDAQVFGEEWGYSSSEDVAEFYHRLQKLTQOY 240

Qy      241  TDHCVMNMYNGLNLRGSTYDAWKFNRRPREMTLTVDLILVLPFYDRLYKSGVKTEL 300
Db      241  TDHCVMNMYNGLNLRGSTYDAWKFNRRPREMTLTVDLILVLPFYDRLYKSGVKTEL 300

Qy      301  TRDIFTDPIFSLNTLOEYGTFLSIENSIRKPHLFDYLOGIEFHTRLQPCYFGKDSFNW 360
Db      301  TRDIFTDPIFSLNTLOEYGTFLSIENSIRKPHLFDYLOGIEFHTRLQPCYFGKDSFNW 360

Qy      361  SGNVETRPSIGSKTITSPFYGDKSTEPVKLSFDGQKVYRTIANTDVAWPNKGKYL 420
Db      361  SGNVETRPSIGSKTITSPFYGDKSTEPVKLSFDGQKVYRTIANTDVAWPNKGKYL 420

Qy      421  VTQVDFSQYDDQKNETSTQYDSKRNGHVSQAQSDIDQLPPETTDPLEKAYSHQLNYAE 480
Db      421  VTQVDFSQYDDQKNETSTQYDSKRNGHVSQAQSDIDQLPPETTDPLEKAYSHQLNYAE 480

Qy      481  CFLMQDRRGITIPFTTWTTHRSVDFPNTIDAEKITQLPVKAYALSSGASIIIEGPGFTGGNL 540
Db      481  CFLMQDRRGITIPFTTWTTHRSVDFPNTIDAEKITQLPVKAYALSSGASIIIEGPGFTGGNL 540

Qy      541  LFLKSSNSIAKPKVTLSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
Db      541  LFLKSSNSIAKPKVTLSAALLQRYVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600

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QY 601 DDLTYQTFDLATTNSNMFGSKNELIIGAESFVSNEKIYIDKIEFIPVQL 652
Db 601 DDLTYQTFDLATTNSNMFGSKNELIIGAESFVSNEKIYIDKIEFIPVQL 652

RESULT 37
US-10-232-665-8
; Sequence 8, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 8
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: non-naturally
; OTHER INFORMATION: occurring amino acid sequence encoded by SEQ ID NO:7
; NAME/KEY: PRT
; LOCATION: (1)..(653)
; OTHER INFORMATION: amino acid sequence for Cry3Bb variant v11231 encoded by SEQ ID N
US-10-232-665-8

Query Match 99.1%; Score 3377; DB 14; Length 653;
Best Local Similarity 99.4%; Pred. No. 1e-259;
Matches 647; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 2 NPNRSEHDTIKVTPNSELQTNHNOYPLADNPSTLEELNYKEFLRMTEDESSTEVLNDST 61
Db 3 NPNRSEHDTIKVTPNSELQTNHNOYPLADNPSTLEELNYKEFLRMTEDESSTEVLNDST 62

QY 62 VKDAVGTGISVVGQILGVGVPPFAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDKK 121
Db 63 VKDAVGTGISVVGQILGVGVPPFAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDKK 122

QY 122 IEYAKSKALAELOGLQNNPFDYVNALNSWKKTPLSLRSKSQDRIRLFSQAESHFRNS 181
Db 123 IEYAKSKALAELOGLQNNPFDYVNALNSWKKTPLSLRSKSQDRIRLFSQAESHFRNS 182

QY 182 MPSPAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGGEWGYSSSDVAEFYHRQLKLTQQYT 241
Db 183 MPSPAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGGEWGYSSSDVAEFYHRQLKLTQQYT 242

QY 242 DHCNVNMYNGLRGSTYDAWKFNRRFRREMTLTVDLIVLPPFYDRLYSGVKTELT 301
Db 243 DHCNVNMYNGLRGSTYDAWKFNRRFRREMTLTVDLIVLPPFYDRLYSGVKTELT 302

QY 302 RDIFTDPIFSLNTLOEYGPFTLSIENSRKPHLPDYLOGIEFTRLOPGYFGKDSFNYS 361
Db 303 RDIFTDPIFLLTLTLOKYGPTFLSIENSRKPHLPDYLOGIEFTRLOPGYFGKDSFNYS 362

QY 362 GNYVETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 421
Db 363 GNYVETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 422

QY 422 TKVDFSQYDDQKNETSTQTYDSKRNGHVSQAQSDIDQLPETTDEPLEKAYSHQLNYAEC 481
Db 423 TKVDFSQYDDQKNETSTQTYDSKRNGHVSQAQSDIDQLPETTDEPLEKAYSHQLNYAEC 482

QY 482 FLMDRRGTIPFTTWTTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNLL 541
Db 483 FLMDRRGTIPFTTWTTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNLL 542

QY 542 FLKSSNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNDFLVIYINKTMNKD 601

Db 543 FLKSSNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNDFLVIYINKTMNKD 602
QY 602 DDLTYQTFDLATTNSNMFGSKNELIIGAESFVSNEKIYIDKIEFIPVQL 652
Db 603 DDLTYQTFDLATTNSNMFGSKNELIIGAESFVSNEKIYIDKIEFIPVQL 653

RESULT 38
US-10-232-665-14
; Sequence 14, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 14
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: peptide encoded by SEQ ID NO:1
US-10-232-665-14

Query Match 99.1%; Score 3377; DB 14; Length 653;
Best Local Similarity 99.4%; Pred. No. 1e-259;
Matches 647; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 2 NPNRSEHDTIKVTPNSELQTNHNOYPLADNPSTLEELNYKEFLRMTEDESSTEVLNDST 61
Db 3 NPNRSEHDTIKVTPNSELQTNHNOYPLADNPSTLEELNYKEFLRMTEDESSTEVLNDST 62

QY 62 VKDAVGTGISVVGQILGVGVPPFAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDKK 121
Db 63 VKDAVGTGISVVGQILGVGVPPFAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDKK 122

QY 122 IEYAKSKALAELOGLQNNPFDYVNALNSWKKTPLSLRSKSQDRIRLFSQAESHFRNS 181
Db 123 IEYAKSKALAELOGLQNNPFDYVNALNSWKKTPLSLRSKSQDRIRLFSQAESHFRNS 182

QY 182 MPSPAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGGEWGYSSSDVAEFYHRQLKLTQQYT 241
Db 183 MPSPAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGGEWGYSSSDVAEFYHRQLKLTQQYT 242

QY 242 DHCNVNMYNGLRGSTYDAWKFNRRFRREMTLTVDLIVLPPFYDRLYSGVKTELT 301
Db 243 DHCNVNMYNGLRGSTYDAWKFNRRFRREMTLTVDLIVLPPFYDRLYSGVKTELT 302

QY 302 RDIFTDPIFSLNTLOEYGPFTLSIENSRKPHLPDYLOGIEFTRLOPGYFGKDSFNYS 361
Db 303 RDIFTDPIFLLTLTLOKYGPTFLSIENSRKPHLPDYLOGIEFTRLOPGYFGKDSFNYS 362

QY 362 GNYVETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 421
Db 363 GNYVETRPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 422

QY 422 TKVDFSQYDDQKNETSTQTYDSKRNGHVSQAQSDIDQLPETTDEPLEKAYSHQLNYAEC 481
Db 423 TKVDFSQYDDQKNETSTQTYDSKRNGHVSQAQSDIDQLPETTDEPLEKAYSHQLNYAEC 482

QY 482 FLMDRRGTIPFTTWTTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNLL 541
Db 483 FLMDRRGTIPFTTWTTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNLL 542

Qy	542	FLKSSNSIAEKVTLNSAALLQRYVYRIRYASTTNRLRFVQNSNDDFLVIYINTKMNKD	601
Db	543	FLKSSNSIAKPKVTLNSAALLQRYVYRIRYASTTNRLRFVQNSNDDFLVIYINTKMNKD	602
Qy	602	DDLTYQTPLDATTNSMFGSGDKNELIIICAESFVSNKEIYIDKIFIPVQL	652
Db	603	DDLTYQTPLDATTNSMFGSGDKNELIIICAESFVSNKEIYIDKIFIPVQL	653

```

RESULT 39
US-10-232-665-16
; Sequence 16, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 16
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; NAME/KEY: PRT
; LOCATION: (1)..(653)
; OTHER INFORMATION: Cry3Bb1 variant v11231
US-10-232-665-16

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Query Match	99.1%;	Score 337;	DB 14;	Length 653;
Best Local Similarity	99.4%;	Pred. No. 1e-259;		
Matches 647; Conservative		1; Mismatches 3;	Indels 0;	Gaps 0;

Qy	2	NPNNRSEHDTTKVTPNSELOTNHNOYP	PLADPNPNS	TLEELNYYKEFURMTEDSS	TEVL	DNST	61
Db	3	NPNNRSEHDTTKVTPNSELOTNHNOYP	PLADPNPNS	TLEELNYYKEFURMTEDSS	TEVL	DNST	62
Qy	62	VKDAVGTGISVVGQILGVGVPPFAGAL	TSFYQSFLNT	1WPSDAD	PWKAFMAQ	VEVL	121
Db	63	VKDAVGTGISVVGQILGVGVPPFAGAL	TSFYQSFLNT	1WPSDAD	PWKAFMAQ	VEVL	122
Qy	122	IEEYAKSKALAELOGLQNNFEDYVNAL	SNWKTPLSLR	SKRSQDRI	RELFSQAESHFRNS		181
Db	123	IEEYAKSKALAELOGLQNNFEDYVNAL	SNWKTPLSLR	SKRSQDRI	RELFSQAESHFRNS		182
Qy	182	MPSFAVSKFEVLFLPTYAQAAANTHLL	LKDAQV	GEEGWSYSED	VAEYFHRQL	KL	241
Db	183	MPSFAVSKFEVLFLPTYAQAAANTHLL	LKDAQV	GEEGWSYSED	VAEYFHRQL	KL	242
Qy	242	DHCUNWNVNGLNGLRGSTYDAWKFN	RPRREMTL	TVLDL	VLVFPYD	IRL	301
Db	243	DHCUNWNVNGLNGLRGSTYDAWKFN	RPRREMTL	TVLDL	VLVFPYD	IRL	302
Qy	302	RDIETDPILFSLNTLQEXGPTFLSIENS	IRKPHL	PDYLOGI	EFBHTL	QPCY	361
Db	303	RDIETDPILFSLNTLQEXGPTFLSIENS	IRKPHL	PDYLOGI	EFBHTL	QPCY	362
Qy	362	GNVYETRPSIGSSKTIITSPFYGD	KSTPEVQKLS	FDGQKVYRT	1ANTDVA	AWP	421
Db	363	GNVYETRPSIGSSKTIITSPFYGD	KSTPEVQKLS	FDGQKVYRT	1ANTDVA	AWP	422
Qy	422	TKVDFSQYDDQKNETSTQTYDSKR	NNGHVSAQDS	IDQLP	PETTDB	PLEKAY	481
Db	423	TKVDFSQYDDQKNETSTQTYDSKR	NNGHVSAQDS	IDQLP	PETTDB	PLEKAY	482
Qy	482	FLMQDRRGTTIPFFTWTHRSVDFNTI	DAEKITQ	LPVVKAY	ALSSGAS	1IEEGP	541
Db	483	FLMQDRRGTTIPFFTWTHRSVDFNTI	DAEKITQ	LPVVKAY	ALSSGAS	1IEEGP	542

Qy	542	FLKESSNSIAKPKVTLNGAALLQRYVRIRYASTTNLRFLVQNSNDDFLVIYINKTNKD	601
Db	543	FLKESSNSIAKPKVTLNGAALLQRYVRIRYASTTNLRFLVQNSNDDFLVIYINKTNKD	602
Qy	602	DDLTYQTFLDATTNSNMFGSDGNELIICAESFVSNKEIYIDKIEFIPVOL	652
Db	603	DDLTYQTFDLATTNSNMFGSDGNELIICAESFVSNKEIYIDKIEFIPVOL	653

```

RESULT 40
US-10-232-665-37
; Sequence 37, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 37
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; NAME/KEY: PRT
; LOCATION: (1)..(653)
; OTHER INFORMATION: variant Cry3BB1 coding sequence encoding v11231
US-10-232-665-37

```

Query Match	99.1%	Score 3377	DB 14	Length 653
Best Local Similarity	99.4%	Pred. No. 1e-259		
Matches 647	Conservative	1	Mismatches 3	Indels 0
				Gaps 0

Qy	2	NNNRSEHDTIKVTPNSBELQNHQYPLADNPNSTLEELNYPEKFLRMTBDSSEVLNDNST	61
Db	3	NNNRSEHDTIKVTPNSBELQNHQYPLADNPNSTLEELNYPEKFLRMTBDSSEVLNDNST	62
Qy	62	VKDAVGTGISVVGQILGVGVPPFAGALTSPFQSFNLTIWPSDADPKAFMAQVEVLIDKK	121
Db	63	VKDAVGTGISVVGQILGVGVPPFAGALTSPFQSFNLTIWPSDADPKAFMAQVEVLIDKK	122
Qy	122	IEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHPRNS	181
Db	123	IEEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHPRNS	182
Qy	182	MPSFAVSKFEVFLPPTYAQAAANTHLLLLKDAQVFGEEGYSSEDAEFYHRQJLKTQOYT	241
Db	183	MPSFAVSKFEVFLPPTYAQAAANTHLLLLKDAQVFGEEGYSSEDAEFYRRQLKLTQOYT	242
Qy	242	DHCNVNNTVGLNGURGSTYDAWKFNRPRREMTLTVLDLVLFPFVDIRLYSKGVKTELT	301
Db	243	DHCNVNNTVGLNGURGSTYDAWKFNRPRREMTLTVLDLVLFPFVDIRLYSKGVKTELT	302
Qy	302	RDIFTDPIFSLNTLQEGCPTLSIENSRKPHLPDYLOGIEFHTRLPQCVFGKDSFNYS	361
Db	303	RDIFTDPIFLTLTQKGPTFLSIENSRKPHLPDYLOGIEFHTRLPQCVFGKDSFNYS	362
Qy	362	GNVYETRPSIGSSKTIISPPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLV	421
Db	363	GNVYETRPSIGSSKTIISPPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLV	422
Qy	422	TKVDFSQYDDQKNETSTQTYDSKRNGHVSAQDSIDQLPETTTDBLEKAYSHQLNAYEC	481
Db	423	TKVDFSQYDDQKNETSTQTYDSKRNGHVSAQDSIDQLPETTTDBLEKAYSHQLNAYEC	482
Qy	482	FLMDRGGTTPFFTWTHRSVDFNTIDAEKTIQLPVKAYALSSGASIIIEGPGFTGNLL	541
Db	483	FLMDRGGTTPFFTWTHRSVDFNTIDAEKTIQLPVKAYALSSGASIIIEGPGFTGNLL	542

QY 542 FLKSSNSIAKFKVTLSAALLQRYVRIRYASTTNLRFLVQNSNDFLVIYINKTNMKD 601
Db 543 FLKSSNSIAKFKVTLSAALLQRYVRIRYASTTNLRFLVQNSNDFLVIYINKTNMKD 602
QY 602 DDLTYQTFDLATTNSMGFGSKNELIIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 603 DDLTYQTFDLATTNSMGFGSKNELIIIGAESFVSNEKIYIDKIEFIPVOL 653

RESULT 41
US-10-232-665-39
; Sequence 39, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; PRIOR FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 39
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; NAME/KEY: PRT
; LOCATION: (1)..(653)
; OTHER INFORMATION: variant Cry3Bb1 coding sequence encoding v11231
US-10-232-665-39

Query Match 99.1%; Score 3377; DB 14; Length 653;
Best Local Similarity 99.4%; Pred. No. 1e-259;
Matches 647; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 2 NPNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSSTEVLNDST 61
Db 3 NPNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSSTEVLNDST 62
QY 62 VKDAVGTGIVVGQILGVVGPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDKK 121
Db 63 VKDAVGTGIVVGQILGVVGPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDKK 122
QY 122 IEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQASHFRNS 181
Db 123 IEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQASHFRNS 182
QY 182 MPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEGYSSEDAEYFRRQLKLTQQYT 241
Db 183 MPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEGYSSEDAEYFRRQLKLTQQYT 242
QY 242 DHCNVNMYNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPYDILRLSKGVKTELT 301
Db 243 DHCNVNMYNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPYDILRLSKGVKTELT 302
QY 302 RDIFTDPIFSLNLTQYEGPTFLSIENSIRKPHLFDYLGQIEFHTRLQPGYFGKDSFNYS 361
Db 363 GNVVETRPISGSKTITSPFYGDKSTPEVQKLSFDGQKVYRTIANTDVAAPNGKVYLGV 421
QY 422 TKVDFSQYDDQKNETSTQTYDSKRNNGHVSQAQSIDQLPETTDEPLEKAYSHQLNVAEC 481
Db 423 TKVDFSQYDDQKNETSTQTYDSKRNNGHVSQAQSIDQLPETTDEPLEKAYSHQLNVAEC 482
QY 482 FLMDRRGTIPFPFTWTHRSVDFFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNLL 541
Db 483 FLMDRRGTIPFPFTWTHRSVDFFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNLL 542

QY 542 FLKSSNSIAKFKVTLSAALLQRYVRIRYASTTNLRFLVQNSNDFLVIYINKTNMKD 601
Db 543 FLKSSNSIAKFKVTLSAALLQRYVRIRYASTTNLRFLVQNSNDFLVIYINKTNMKD 602
QY 602 DDLTYQTFDLATTNSMGFGSKNELIIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 603 DDLTYQTFDLATTNSMGFGSKNELIIIGAESFVSNEKIYIDKIEFIPVOL 653

RESULT 42
US-10-614-076-100
; Sequence 100, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Terssch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 100
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-100

Query Match 99.1%; Score 3377; DB 15; Length 653;
Best Local Similarity 99.4%; Pred. No. 1e-259;
Matches 647; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 2 NPNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSSTEVLNDST 61
Db 3 NPNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSSTEVLNDST 62
QY 62 VKDAVGTGIVVGQILGVVGPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDKK 121
Db 63 VKDAVGTGIVVGQILGVVGPAGALTSFYQSFLNTIWPSDADPWKAFMAQVEVLIDKK 122
QY 122 IEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQASHFRNS 181
Db 123 IEYAKSKALAELOGLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQASHFRNS 182
QY 182 MPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEGYSSEDAEYFRRQLKLTQQYT 241
Db 183 MPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEGYSSEDAEYFRRQLKLTQQYT 242
QY 242 DHCNVNMYNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPYDILRLSKGVKTELT 301
Db 243 DHCNVNMYNGLRGSTYDAWKFNRRREMTLTVDLILVLPFPYDILRLSKGVKTELT 302
QY 302 RDIFTDPIFSLNLTQYEGPTFLSIENSIRKPHLFDYLGQIEFHTRLQPGYFGKDSFNYS 361
Db 363 GNVVETRPISGSKTITSPFYGDKSTPEVQKLSFDGQKVYRTIANTDVAAPNGKVYLGV 421
QY 422 FLMDRRGTIPFPFTWTHRSVDFFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNLL 541
Db 483 FLMDRRGTIPFPFTWTHRSVDFFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGNLL 542

QY 422 TKVDFSYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPETTTDEPLEKAYSHQLNYAEC 481
DB 423 TKVDFSYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPETTTDEPLEKAYSHQLNYAEC 482
QY 482 FLMDRGGTIPFFTWTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGGNLL 541
DB 483 FLMDRGGTIPFFTWTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGGNLL 542
QY 542 FLKESNSSIAKFVTLNSAALLQRYRIRYASTTNLRLFVQNSNDFLVIYINKTNMKD 601
DB 543 FLKESNSSIAKFVTLNSAALLQRYRIRYASTTNLRLFVQNSNDFLVIYINKTNMKD 602
QY 602 DDLTYQTDFDLATNSNMFGSGDKNELIIGAESFVSNKEIYIDKIEFIPVOL 652
DB 603 DDLTYQTDFDLATNSNMFGSGDKNELIIGAESFVSNKEIYIDKIEFIPVOL 653

RESULT 43
US-10-614-076-108
; Sequence 108, Application US/10614076
; Publication No. US2004003323A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brussock, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: Patentin version 3.2
; SEQ ID NO 108
; LENGTH: 652
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-108

Query Match 99.1%; Score 3375; DB 15; Length 652;
Best Local Similarity 99.2%; Pred. No. 1.5e-259;
Matches 647; Conservative 1; Mismatches 4; Indels 0; Gaps 0;

QY 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSDSTEVLNDS 60
DB 1 MNPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSDSTEVLNDS 60
QY 61 TVKDAVGTGISVVGQILGVGVVPFAGALTSTFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
DB 61 TVKDAVGTGISVVGQILGVGVVPFAGALTSTFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 120
QY 121 KIEEYAKSKALAEQLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHFRN 180
DB 121 KIEEYAKSKALAEQLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHFRN 180
QY 181 SMPSFAVSKPEVLFLPTYAQAANTHLLLLKDAQVFGGEWGYSSSEDVAEFYHROLKLTQOYT 240
DB 181 SMPSFAVSKPEVLFLPTYAQAANTHLLLLKDAQVFGGEWGYSSSEDVAEFYHROLKLTQOYT 240
QY 241 TDHCVMWYVGLNGLRGSTYDAWKFNRRFEMTLTVLDLILVLPFDYIRLYSGVKTEL 300
DB 241 TDHCVMWYVGLNGLRGSTYDAWKFNRRFEMTLTVLDLILVLPFDYIRLYSGVKTEL 300
QY 301 TRDIFTDPIFLTLQYGTFFLSIENSIRKPHLFDYLOQIEBHTRLQPGYFGKDSFNW 360

DB 301 TRDIFTDPIFLTLQYGTFFLSIENSIRKPHLFDYLOQIEBHTRLQPGYFGKDSFNW 360
QY 361 SGNVETRPSIGSKTITSPFYGDKSTPEVKLSFDQOKYVRTIANTDVAWPNKGKYL 420
DB 361 SGNVETRPSIGSKTITSPFYGDKSTPEVKLSFDQOKYVRTIANTDVAWPNKGKYL 420
QY 421 VTKVDFSYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPETTTDEPLEKAYSHQLNYAEC 480
DB 421 VTKVDFSYDDQKNETSTQTYDSKRNNGHVSAQDSIDQLPETTTDEPLEKAYSHQLNYAEC 480
QY 481 CFMLQDRRGITPFFTWTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGGNLL 540
DB 481 CFMLQDRRGITPFFTWTHRSVDFNTIDAETITQLPVVKAYALSSGASIIIEGPGFTGGNLL 540
QY 541 LFLKESNSSIAKFVTLNSAALLQRYRIRYASTTNLRLFVQNSNDFLVIYINKTNMK 600
DB 541 LFLKESNSSIAKFVTLNSAALLQRYRIRYASTTNLRLFVQNSNDFLVIYINKTNMK 600
QY 601 DDLTYQTDFDLATNSNMFGSGDKNELIIGAESFVSNKEIYIDKIEFIPVOL 652
DB 601 DDLTYQTDFDLATNSNMFGSGDKNELIIGAESFVSNKEIYIDKIEFIPVOL 652

RESULT 44
US-10-232-665-12
; Sequence 12, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 12
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: non-naturally
; OTHER INFORMATION: Occurring amino acid sequence encoded by SEQ ID NO:11
; NAME/KEY: PRT
; LOCATION: (1)..(1653)
; OTHER INFORMATION: amino acid sequence encoded by SEQ ID NO:11
US-10-232-665-12

Query Match 99.0%; Score 3373; DB 14; Length 653;
Best Local Similarity 99.2%; Pred. No. 2.2e-259;
Matches 646; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 2 NPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSDSTEVLNDS 61
DB 3 NPNNRSEHDTIKVTPNSELOTHNQYPLADNPSTLEELNYKEFLRMTEDSDSTEVLNDS 62
QY 62 VKDAVGTGISVVGQILGVGVVPFAGALTSTFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 121
DB 63 VKDAVGTGISVVGQILGVGVVPFAGALTSTFYQSFLNTIWPSDADPWKAFMAQVEVLIDK 122
QY 122 IEYAKSKALAEQLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHFRNS 181
DB 123 IEYAKSKALAEQLQNNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSQAESHFRNS 182
QY 182 MFSFAVSKPEVLFLPTYAQAANTHLLLLKDAQVFGGEWGYSSSEDVAEFYHROLKLTQOYT 241
DB 183 MFSFAVSKPEVLFLPTYAQAANTHLLLLKDAQVFGGEWGYSSSEDVAEFYHROLKLTQOYT 242
QY 242 DHCVMWYVGLNGLRGSTYDAWKFNRRFEMTLTVLDLILVLPFDYIRLYSGVKTEL 301

Db 243 DHCNVNMYNGLNLRGSGTYDAWKFNRRPREMTLTVLDLIVLFPFYDIRLYSGVKTELT 302
QY 302 RDIPTDPIFSLNTLOEYGTPTFLSIENSIRKPHLFDYLOGIEFHTRLOQGYFGKDSFNYS 361
Db 303 RDIPTDPIFSLNTLOEYGTPTFLSIENSIRKPHLFDYLOGIEFHTRLOQGYFGKDSFNYS 362
QY 362 GNYVETREPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVVYLG 421
Db 363 GNYVETREPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVVYLG 422
QY 422 TKVDFSOYDDQKNETSTQTYDSKRNGHVSAQDSIDQLPETTTDEPLEKAYSHQLYAEC 481
Db 423 TKVDFSOYDDQKNETSTQTYDSKRNGHVSAQDSIDQLPETTTDEPLEKAYSHQLYAEC 482
QY 482 FLMDRRGTIPPTFTWTHRSVDFPNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGGNLL 541
Db 483 FLMDRRGTIPPTFTWTHRSVDFPNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGGNLL 542
QY 542 FLKESNSIAKPKVTLSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNKD 601
Db 543 FLKESNSIAKPKVTLSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNKD 602
QY 602 DDLTYQTDLATTSNMGFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVQL 652
Db 603 DDLTYQTDLATTSNMGFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVQL 653

RESULT 45

US-10-232-665-22

; Sequence 22, Application US/10232665

; Publication No. US20030115630A1

; GENERAL INFORMATION:

; APPLICANT: Romano, Charles P.

; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants

; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn

; CURRENT APPLICATION NUMBER: US/10/232,665

; CURRENT FILING DATE: 2002-08-29

; PRIOR APPLICATION NUMBER: US/09/377,466

; PRIOR FILING DATE: 1999-08-19

; NUMBER OF SEQ ID NOS: 43

; SOFTWARE: PatentIn Ver. 2.0

; SEQ ID NO 22

; LENGTH: 653

; TYPE: PRT

; ORGANISM: Artificial Sequence

; FEATURE:

; NAME/KEY: PRT

; LOCATION: (1)..(653)

; OTHER INFORMATION: Cry3Bb1 variant 11231mv2

US-10-232-665-22

Query Match 99.0%; Score 3373; DB 14; Length 653;
Best Local Similarity 99.2%; Pred. No. 2.2e-259;
Matches 646; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 2 NPNRSEHDTIKVTNPSELQTNHNOYPLADNPSTLEELNYKEFLRMWTDSSTEVLIDNST 61
Db 3 NPNRSEHDTIKVTNPSELQTNHNOYPLADNPSTLEELNYKEFLRMWTDSSTEVLIDNST 62
QY 62 VKDAVGTGIVSVVGQILGVVGVFPFAGALTSFYQSFLNTIWPSSDADPWKAPMAQVEVLIDKK 121
Db 63 VKDAVGTGIVSVVGQILGVVGVFPFAGALTSFYQSFLNTIWPSSDADPWKAPMAQVEVLIDKK 122
QY 122 IEEYAKSKALAELOQLONNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSAESHFRNS 181
Db 123 IEEYAKSKALAELOQLONNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSAESHFRNS 182
QY 182 MPSPAVSKFEVLFLPTYAQAANTHLLLLKDAQVFEEMWYSSSEDVAEFVHRQLKLTQOYT 241
Db 183 MPSPAVSKFEVLFLPTYAQAANTHLLLLKDAQVFEEMWYSSSEDVAEFVHRQLKLTQOYT 242
QY 242 DHCNVNMYNGLNLRGSGTYDAWKFNRRPREMTLTVLDLIVLFPFYDIRLYSGVKTELT 301

Db 243 DHCNVNMYNGLNLRGSGTYDAWKFNRRPREMTLTVLDLIVLFPFYDIRLYSGVKTELT 302
QY 302 RDIPTDPIFSLNTLOEYGTPTFLSIENSIRKPHLFDYLOGIEFHTRLOQGYFGKDSFNYS 361
Db 303 RDIPTDPIFSLNTLOEYGTPTFLSIENSIRKPHLFDYLOGIEFHTRLOQGYFGKDSFNYS 362
QY 362 GNYVETREPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVVYLG 421
Db 363 GNYVETREPSIGSSKTIITSPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVVYLG 422
QY 422 TKVDFSOYDDQKNETSTQTYDSKRNGHVSAQDSIDQLPETTTDEPLEKAYSHQLYAEC 481
Db 423 TKVDFSOYDDQKNETSTQTYDSKRNGHVSAQDSIDQLPETTTDEPLEKAYSHQLYAEC 482
QY 482 FLMDRRGTIPPTFTWTHRSVDFPNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGGNLL 541
Db 483 FLMDRRGTIPPTFTWTHRSVDFPNTIDAEKITQLPVVKAYALSSGASIIIEGPGFTGGNLL 542
QY 542 FLKESNSIAKPKVTLSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNKD 601
Db 543 FLKESNSIAKPKVTLSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNKD 602
QY 602 DDLTYQTDLATTSNMGFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVQL 652
Db 603 DDLTYQTDLATTSNMGFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVQL 653

RESULT 46

US-10-232-665-24

; Sequence 24, Application US/10232665

; Publication No. US20030115630A1

; GENERAL INFORMATION:

; APPLICANT: Romano, Charles P.

; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants

; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn

; CURRENT APPLICATION NUMBER: US/10/232,665

; CURRENT FILING DATE: 2002-08-29

; PRIOR APPLICATION NUMBER: US/09/377,466

; PRIOR FILING DATE: 1999-08-19

; NUMBER OF SEQ ID NOS: 43

; SOFTWARE: PatentIn Ver. 2.0

; SEQ ID NO 24

; LENGTH: 653

; TYPE: PRT

; ORGANISM: Artificial Sequence

; FEATURE:

; NAME/KEY: PRT

; LOCATION: (1)..(653)

; OTHER INFORMATION: Cry3Bb1 variant 11231mv2

US-10-232-665-24

Query Match 99.0%; Score 3373; DB 14; Length 653;
Best Local Similarity 99.2%; Pred. No. 2.2e-259;
Matches 646; Conservative 2; Mismatches 3; Indels 0; Gaps 0;

QY 2 NPNRSEHDTIKVTNPSELQTNHNOYPLADNPSTLEELNYKEFLRMWTDSSTEVLIDNST 61
Db 3 NPNRSEHDTIKVTNPSELQTNHNOYPLADNPSTLEELNYKEFLRMWTDSSTEVLIDNST 62
QY 62 VKDAVGTGIVSVVGQILGVVGVFPFAGALTSFYQSFLNTIWPSSDADPWKAPMAQVEVLIDKK 121
Db 63 VKDAVGTGIVSVVGQILGVVGVFPFAGALTSFYQSFLNTIWPSSDADPWKAPMAQVEVLIDKK 122
QY 122 IEEYAKSKALAELOQLONNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSAESHFRNS 181
Db 123 IEEYAKSKALAELOQLONNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSAESHFRNS 182
QY 182 MPSPAVSKFEVLFLPTYAQAANTHLLLLKDAQVFEEMWYSSSEDVAEFVHRQLKLTQOYT 241
Db 183 MPSPAVSKFEVLFLPTYAQAANTHLLLLKDAQVFEEMWYSSSEDVAEFVHRQLKLTQOYT 242
QY 242 DHCNVNMYNGLNLRGSGTYDAWKFNRRPREMTLTVLDLIVLFPFYDIRLYSGVKTELT 301

Db 243 DHCNVNNGVGLRGSTYDAWKFNFRREMTLTVDLVLVFPFYDIRLSYSGVKTELT 302
Qy 302 RDIFTDPIFSLNTLOEYGPFTLSIENSIRKPHLFDYLOQIEFTRLOQPGYFGKDSFNYS 361
Db 303 RDIFTDPIFLLTLQKGPFTLSIENSIRKPHLFDYLOQIEFTRLRPGYFGKDSFNYS 362
Qy 362 GNVETRPSIGSSKTIITSPFYGDKSTPEVKLSFGDGQKVYRTIANTDVAAMPNGKVYLG 421
Db 363 GNVETRPSIGSSKTIITSPFYGDKSTPEVKLSFGDGQKVYRTIANTDVAAMPNGKVYLG 422
Qy 422 TKVDFSQDDQKNETSTQTYDSKRNGHVSQAQSIDQLPPTTDEPLEKAYSHQLNVAEC 481
Db 423 TKVDFSQDDQKNETSTQTYDSKRNGHVSQAQSIDQLPPTTDEPLEKAYSHQLNVAEC 482
Qy 482 FLMDRRGTIPFTTWRHSVDFNTIDAETITQLPVVKAYALSSGASIIEGPGFTGNNLL 541
Db 483 FLMDRRGTIPFTTWRHSVDFNTIDAETITQLPVVKAYALSSGASIIEGPGFTGNNLL 542
Qy 542 FLKSSNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDFLVIYINKTMNKD 601
Db 543 FLKSSNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDFLVIYINKTMNKD 602
Qy 602 DDLTYQTFDLATNSNMFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 603 DDLTYQTFDLATNSNMFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 653

RESULT 47

US-10-614-076-56
; Sequence 56, Application US/10614076
; Publication No. US20040033523A1
; GENERAL INFORMATION:
; APPLICANT: English, Leigh H.
; APPLICANT: Brusseck, Susan M.
; APPLICANT: Malvar, Thomas M.
; APPLICANT: Bryson, James W.
; APPLICANT: Kulesza, Caroline A.
; APPLICANT: Walters, Frederick S.
; APPLICANT: Slatin, Stephen L.
; APPLICANT: Von Tersch, Michael A.
; TITLE OF INVENTION: POLYPEPTIDE COMPOSITIONS TOXIC TO COLEOPTERAN INSECTS
; FILE REFERENCE: MECO:218--1 11792.0218.DVUS01
; CURRENT APPLICATION NUMBER: US/10/614,076
; CURRENT FILING DATE: 2003-07-03
; PRIOR APPLICATION NUMBER: 09/427,770
; PRIOR FILING DATE: 1999-10-27
; PRIOR APPLICATION NUMBER: 08/993,722
; PRIOR FILING DATE: 1997-12-18
; NUMBER OF SEQ ID NOS: 113
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 56
; LENGTH: 651
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Recombinant delta endotoxin
US-10-614-076-56

Query Match 98.8%; Score 3366.5; DB 15; Length 651;
Best Local Similarity 99.1%; Pred. No. 7.1e-259;
Matches 646; Conservative 2; Mismatches 3; Indels 1; Gaps 1;
Qy 1 MNPNNRSEHDTIKVTPNSELQTNHNYPLADNPNSTLEELNYKEFLRMWTESSSTEVLNDS 60
Db 1 MNPNNRSEHDTIKVTPNSELQTNHNYPLADNPNSTLEELNYKEFLRMWTESSSTEVLNDS 60
Qy 61 TVKDAVGTGTSVVGQILGVGVFPFAGALTSFYQSFLNTIWPSDADPKAFMAQVEVLIDK 120
Db 61 TVKDAVGTGTSVVGQILGVGVFPFAGALTSFYQSFLNTIWPSE-DPKAFMAQVEVLIDK 119
Qy 121 KIEEYAKSALAELOGLQNNFEDYVNALNSWKKTPILSLRKSQDRIRIELFSQAESHFRN 180
Db 120 KIEEYAKSALAELOGLQNNFEDYVNALNSWKKTPILSLRNPHSQGRIRIELFSQAESHFRN 179

Qy 181 SMPSFAVSKFEVLFLPTAQAAANTHLILLKDAQVFGEMGYSSDVAEFYHROLKLTQQY 240
Db 180 SMPSFAVSKFEVLFLPTAQAAANTHLILLKDAQVFGEMGYSSDVAEFYHROLKLTQQY 239
Qy 241 TDHCNVNNGVGLRGSTYDAWKFNFRREMTLTVDLVLVFPFYDIRLSYSGVKTELT 300
Db 240 TDHCNVNNGVGLRGSTYDAWKFNFRREMTLTVDLVLVFPFYDIRLSYSGVKTELT 299
Qy 301 TRDIFTDPIFSLNTLOEYGPFTLSIENSIRKPHLFDYLOQIEFTRLOQPGYFGKDSFNYS 360
Db 300 TRDIFTDPIFSLNTLOEYGPFTLSIENSIRKPHLFDYLOQIEFTRLOQPGYFGKDSFNYS 359
Qy 361 SGNVETRPSIGSSKTIITSPFYGDKSTPEVKLSFGDGQKVYRTIANTDVAAMPNGKVYLG 420
Db 360 SGNVETRPSIGSSKTIITSPFYGDKSTPEVKLSFGDGQKVYRTIANTDVAAMPNGKVYLG 419
Qy 421 VTKVDFSQDDQKNETSTQTYDSKRNGHVSQAQSIDQLPPTTDEPLEKAYSHQLNVAE 480
Db 420 VTKVDFSQDDQKNETSTQTYDSKRNGHVSQAQSIDQLPPTTDEPLEKAYSHQLNVAE 479
Qy 481 CFLMDRRGTIPFTTWRHSVDFNTIDAETITQLPVVKAYALSSGASIIEGPGFTGNNL 540
Db 480 CFLMDRRGTIPFTTWRHSVDFNTIDAETITQLPVVKAYALSSGASIIEGPGFTGNNL 539
Qy 541 LFLKSSNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 600
Db 540 LFLKSSNSIAKFKVTLNSAALLQRYRIRYASTTNLRLFVQNSNNDFLVIYINKTMNK 599
Qy 601 DDLTYQTFDLATNSNMFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 652
Db 600 DDLTYQTFDLATNSNMFGSGDKNELIIGAESFVSNEKIYIDKIEFIPVOL 651

RESULT 48

US-10-232-665-10
; Sequence 10, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:
; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 10
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: non-naturally
; OTHER INFORMATION: Occurring amino acid sequence encoded by SEQ ID NO:9
; NAME/KEY: PRT
; LOCATION: (1)...(653)
; OTHER INFORMATION: amino acid sequence encoded by SEQ ID NO:9
US-10-232-665-10

Query Match 98.8%; Score 3366; DB 14; Length 653;
Best Local Similarity 99.1%; Pred. No. 7.8e-259;
Matches 645; Conservative 2; Mismatches 4; Indels 0; Gaps 0;
Qy 2 NPNNRSEHDTIKVTPNSELQTNHNYPLADNPNSTLEELNYKEFLRMWTESSSTEVLNDS 61
Db 3 NPNNRSEHDTIKVTPNSELQTNHNYPLADNPNSTLEELNYKEFLRMWTESSSTEVLNDS 62
Qy 62 VKDAVGTGTSVVGQILGVGVFPFAGALTSFYQSFLNTIWPSDADPKAFMAQVEVLIDK 121
Db 63 VKDAVGTGTSVVGQILGVGVFPFAGALTSFYQSFLNTIWPSDADPKAFMAQVEVLIDK 122

QY 122 IEEYAKSALAELQGLONNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSOAESHFRNS 181
DB 123 IEEYAKSALAELQGLONNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSOAESHFRNS 182
QY 182 MPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEWGYSSSEDVAEFYHRQLKLTQQYT 241
DB 183 MPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEWGYSSSEDVAEFYHRQLKLTQQYT 242
QY 242 DHCNVNMYNGLNGLRGSTYDAWKFNRRPREMTLTVLDLIVLPPFYDIRLSYSGVKTELT 301
DB 243 DHCNVNMYNGLNGLRGSTYDAWKFNRRPREMTLTVLDLIVLPPFYDIRLSYSGVKTELT 302
QY 302 RDIPTDPIPSLNTIQEYGTFTLSIENSIRKPHLFDYLOGIEPHTLQPGYFGKDSFNYS 361
DB 303 RDIPTDPIPSLNTIQEYGTFTLSIENSIRKPHLFDYLOGIEPHTLQPGYFGKDSFNYS 362
QY 362 GNYVETRPSIGSSKITTSPPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 421
DB 363 GNYVETRPSIGSSKITTSPPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 422
QY 422 TKVDFSQYDDQKNETSTQTYDSKRNNHVSQAQDSIDQLPPETTTDBPLEKAYSHQNLNAYEC 481
DB 423 TKVDFSQYDDQKNETSTQTYDSKRNNHVSQAQDSIDQLPPETTTDBPLEKAYSHQNLNAYEC 482
QY 482 FLMDRRGTIPFTTWRHSVDFNTIDAETITQLPVKAYALSSGASIIIEGPGFTGGNLL 541
DB 483 FLMDRRGTIPFTTWRHSVDFNTIDAETITQLPVKAYALSSGASIIIEGPGFTGGNLL 542
QY 542 FLKSSNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNKD 601
DB 543 FLKSSNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNKD 602
QY 602 DDLTYQTFLATNNSNMFGSGDKNELIIGAESFVSNEKIYIDKIFIPVOL 652
DB 603 DDLTYQTFLATNNSNMFGSGDKNELIIGAESFVSNEKIYIDKIFIPVOL 653

RESULT 49

US-10-232-665-18
; Sequence 18, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:

; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 18
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; NAME/KEY: PRT
; LOCATION: (1)..(653)
; OTHER INFORMATION: Cry3Bb1 variant 11231mv1
US-10-232-665-18

Query Match 98.8%; Score 3366; DB 14; Length 653;
Best Local Similarity 99.1%; Pred. No. 7.8e-259;
Matches 645; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

QY 2 NPNRSEHDTIKVTNPSELQTNHNQYPLADNPSTLEELNYKEFLRMWTDSSTEVLNDNST 61
DB 3 NPNRSEHDTIKVTNPSELQTNHNQYPLADNPSTLEELNYKEFLRMWTDSSTEVLNDNST 62
QY 62 VKDAVGTGISVVGQILGVVGVPPFAGALTSFYQSFLNTIWPSPDADPWKAFMAQVEVLIDKK 121
DB 63 VKDAVGTGISVVGQILGVVGVPPFAGALTSFYQSFLNTIWPSPDADPWKAFMAQVEVLIDKK 122

QY 122 IEEYAKSALAELQGLONNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSOAESHFRNS 181
DB 123 IEEYAKSALAELQGLONNFEDYVNALNSWKKTPLSLRSKRSQDRIRELFSOAESHFRNS 182
QY 182 MPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEWGYSSSEDVAEFYHRQLKLTQQYT 241
DB 183 MPFAVSKFEVLFLPTYAQAANTHLLLLKDAQVFGEEWGYSSSEDVAEFYHRQLKLTQQYT 242
QY 242 DHCNVNMYNGLNGLRGSTYDAWKFNRRPREMTLTVLDLIVLPPFYDIRLSYSGVKTELT 301
DB 243 DHCNVNMYNGLNGLRGSTYDAWKFNRRPREMTLTVLDLIVLPPFYDIRLSYSGVKTELT 302
QY 302 RDIPTDPIPSLNTIQEYGTFTLSIENSIRKPHLFDYLOGIEPHTLQPGYFGKDSFNYS 361
DB 303 RDIPTDPIPSLNTIQEYGTFTLSIENSIRKPHLFDYLOGIEPHTLQPGYFGKDSFNYS 362
QY 362 GNYVETRPSIGSSKITTSPPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 421
DB 363 GNYVETRPSIGSSKITTSPPFYGDKSTEPVQKLSFDGQKVYRTIANTDVAAPNGKVYLG 422
QY 422 TKVDFSQYDDQKNETSTQTYDSKRNNHVSQAQDSIDQLPPETTTDBPLEKAYSHQNLNAYEC 481
DB 423 TKVDFSQYDDQKNETSTQTYDSKRNNHVSQAQDSIDQLPPETTTDBPLEKAYSHQNLNAYEC 482
QY 482 FLMDRRGTIPFTTWRHSVDFNTIDAETITQLPVKAYALSSGASIIIEGPGFTGGNLL 541
DB 483 FLMDRRGTIPFTTWRHSVDFNTIDAETITQLPVKAYALSSGASIIIEGPGFTGGNLL 542
QY 542 FLKSSNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNKD 601
DB 543 FLKSSNSIAKFKVTLNSAALLQRYRVRIRYASTTNLRLFVQNSNNDFLVIYINKTMNKD 602
QY 602 DDLTYQTFLATNNSNMFGSGDKNELIIGAESFVSNEKIYIDKIFIPVOL 652
DB 603 DDLTYQTFLATNNSNMFGSGDKNELIIGAESFVSNEKIYIDKIFIPVOL 653

RESULT 50

US-10-232-665-20
; Sequence 20, Application US/10232665
; Publication No. US20030115630A1
; GENERAL INFORMATION:

; APPLICANT: Romano, Charles P.
; TITLE OF INVENTION: Improved Expression of Cry3Bb Insecticidal Protein in Plants
; FILE REFERENCE: 38-21(15304) Cry3Bb Improved Exp. Corn
; CURRENT APPLICATION NUMBER: US/10/232,665
; CURRENT FILING DATE: 2002-08-29
; PRIOR APPLICATION NUMBER: US/09/377,466
; PRIOR FILING DATE: 1999-08-19
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 20
; LENGTH: 653
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; NAME/KEY: PRT
; LOCATION: (1)..(653)
; OTHER INFORMATION: Cry3Bb1 variant 11231mv1
US-10-232-665-20

Query Match 98.8%; Score 3366; DB 14; Length 653;
Best Local Similarity 99.1%; Pred. No. 7.8e-259;
Matches 645; Conservative 2; Mismatches 4; Indels 0; Gaps 0;

QY 2 NPNRSEHDTIKVTNPSELQTNHNQYPLADNPSTLEELNYKEFLRMWTDSSTEVLNDNST 61
DB 3 NPNRSEHDTIKVTNPSELQTNHNQYPLADNPSTLEELNYKEFLRMWTDSSTEVLNDNST 62
QY 62 VKDAVGTGISVVGQILGVVGVPPFAGALTSFYQSFLNTIWPSPDADPWKAFMAQVEVLIDKK 121
DB 63 VKDAVGTGISVVGQILGVVGVPPFAGALTSFYQSFLNTIWPSPDADPWKAFMAQVEVLIDKK 122

Qy	122	IEEYAKS	KALAE	QGLQ	NNFEDY	NALNSW	KTKT	PLSL	RSKR	SQDR	IREL	FSQA	ESHFRNS	181
Db	123	IEEYAKS	KALAE	QGLQ	NNFEDY	NALNSW	KTKT	PLSL	RSKR	SQDR	IREL	FSQA	ESHFRNS	182
Qy	182	MPSFAV	SKFEV	FLPT	YQAQ	ANTHLL	LLKDA	QVGE	EWGYS	SEDVA	EFYR	QRLK	LTOQYT	241
Db	183	MPSFAV	SKFEV	FLPT	YQAQ	ANTHLL	LLKDA	QVGE	EWGYS	SEDVA	EFYR	QRLK	LTOQYT	242
Qy	242	DHCNVN	YNGV	GLRG	STYD	AWKFN	FRRE	MTLV	LDL	VLV	PPFY	DIRL	YSKG	VKT
Db	243	DHCNVN	YNGV	GLRG	STYD	AWKFN	FRRE	MTLV	LDL	VLV	PPFY	DIRL	YSKG	VKT
Qy	302	RDIFTD	PIFSL	NLQ	EYGP	TFLS	ENSIR	KPHL	FDYL	QGI	EFH	RLQ	PGYF	GKDS
Db	303	RDIFTD	PIFSL	NLQ	EYGP	TFLS	ENSIR	KPHL	FDYL	QGI	EFH	RLQ	PGYF	GKDS
Qy	362	GNVETR	PSIG	SSKT	ITSP	PGDK	STEP	VOKL	SFDG	QKVY	RTIAN	TDVA	AWPN	GKYL
Db	363	GNVETR	PSIG	SSKT	ITSP	PGDK	STEP	VOKL	SFDG	QKVY	RTIAN	TDVA	AWPN	GKYL
Qy	422	TKVDFS	QYDD	QKNE	TSTQ	TYDS	KRNH	GVSA	QDSI	DOLP	PETT	DEPL	EKAY	SHQ
Db	423	TKVDFS	QYDD	QKNE	TSTQ	TYDS	KRNH	GVSA	QDSI	DOLP	PETT	DEPL	EKAY	SHQ
Qy	482	FLMQDR	RGTI	PPFT	WTHRS	VDFF	NTIDA	EKIT	ITQ	LPV	KAYAL	SSGA	SIIE	GPGT
Db	483	FLMQDR	RGTI	PPFT	WTHRS	VDFF	NTIDA	EKIT	ITQ	LPV	KAYAL	SSGA	SIIE	GPGT
Qy	542	FLKESNS	IAKFK	VTLNS	AALL	QRYR	IRYAS	TNLR	LPV	QNSN	DNDF	FLVI	YINK	TMNK
Db	543	FLKESNS	IAKFK	VTLNS	AALL	QRYR	IRYAS	TNLR	LPV	QNSN	DNDF	FLVI	YINK	TMNK
Qy	602	DDLTYQ	TDFDL	ATTNS	NMGF	SGDK	NELI	IGA	ESFV	SNEK	IYID	KIEF	IPVQ	L
Db	603	DDLTYQ	TDFDL	ATTNS	NMGF	SGDK	NELI	IGA	ESFV	SNEK	IYID	KIEF	IPVQ	L

Search completed: February 14, 2005, 15:26:27
Job time : 149 secs

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